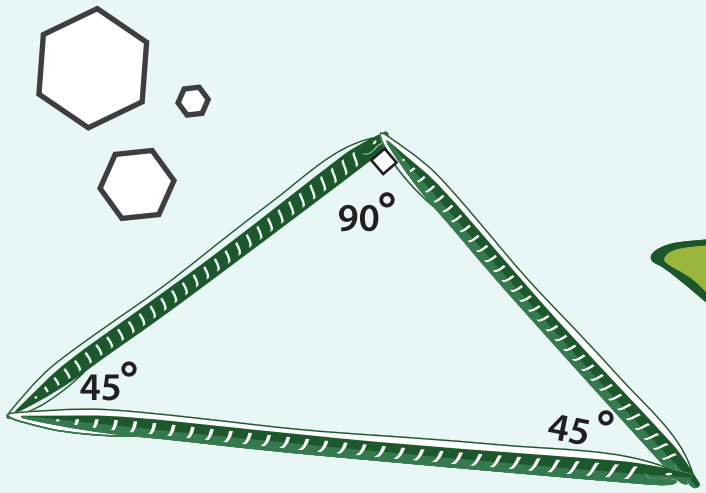
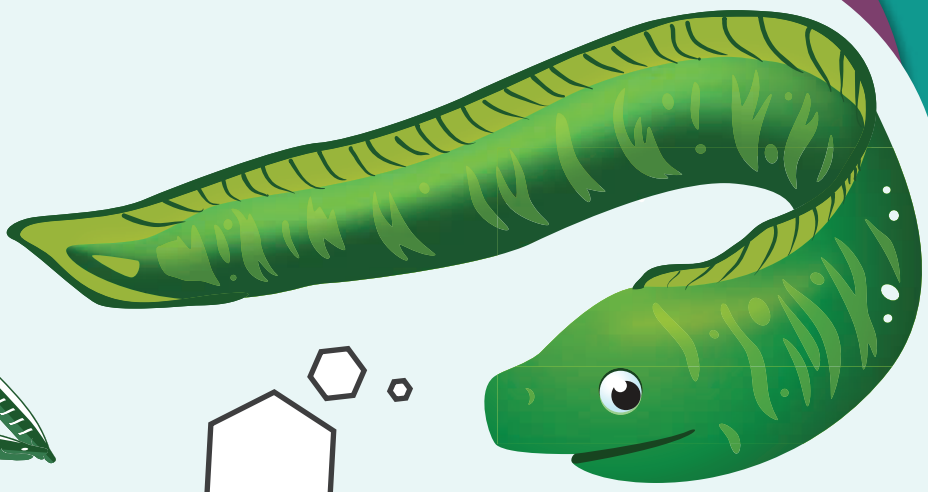
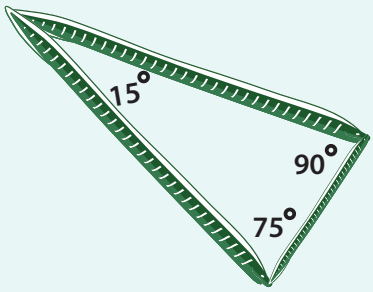
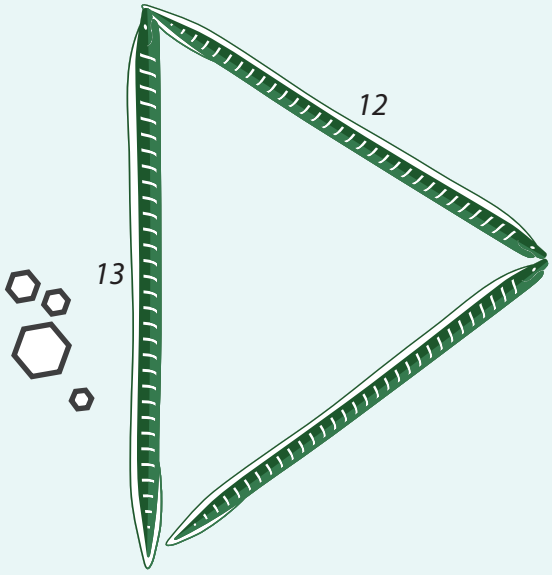
Geometry & Measurement

4th Grade









education.com

Table of Contents

Geometry and Measurement

** Has an Answer Sheet*

4th Grade

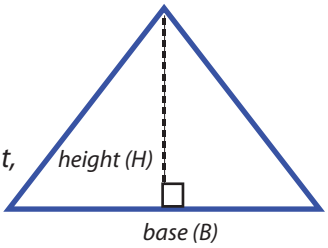
Acute Triangle: Practice Finding Area

Use the clues provided to find the area of each triangle. Show your work.

Review:

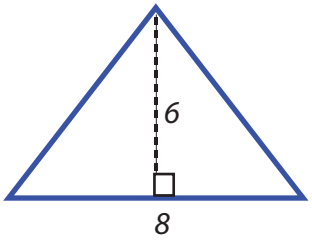
Triangle Area = $\frac{1}{2}$ x base x height

The base of a triangle can be any one of its sides.
The height is the distance from a base to its opposite point, or vertex.
A base must be perpendicular to its height.



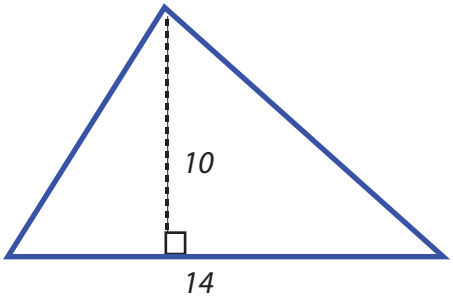
An acute triangle is a triangle that has three acute angles (angles that measure between 0 and 90 degrees).

Example:



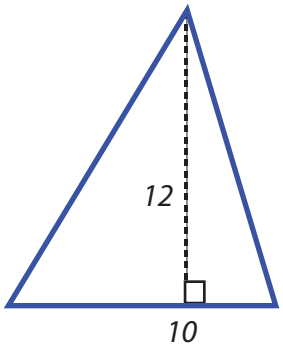
Base = **8** ft.
Height = **6** ft.
Area = $\frac{1}{2}$ x **8 x 6**
= **24** ft.

1



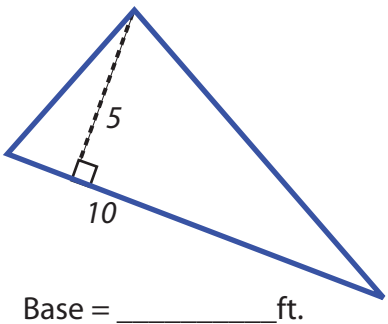
Base = _____ ft.
Height = _____ ft.
Area =
= _____ sq.ft.

2



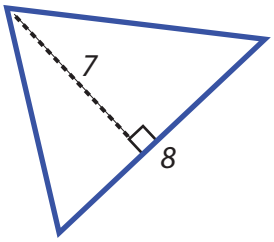
Base = _____ ft.
Height = _____ ft.
Area =
= _____ sq.ft.

3



Base = _____ ft.
Height = _____ ft.
Area =
= _____ sq.ft.

4

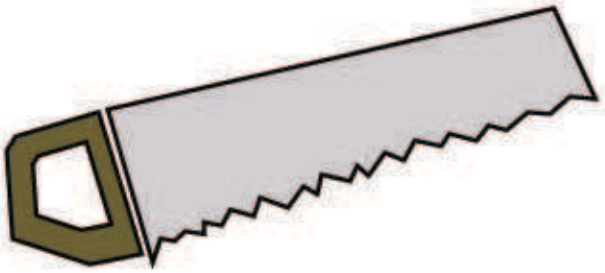


Base = _____ ft.
Height = _____ ft.
Area =
= _____ sq.ft.

Units of Measurement

Help Franky decide what is the best unit of measurement to bulid areas of his house!

1. Length of the bedroom
   a. Inches b. Miles
   c. Millimeters d. Feet



2. Height of ceiling
   a. Feet b. Kilometers
   c. Miles d. Centimeters

3. Width of fence boards
   a. Miles b. Yards
   c. Inches d. Feet

4. Water for pool
   a. Cups b. Gallons
   c. Tablespoons d. Liters

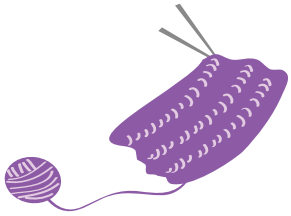
5. Length of lawn
   a. Centimeters b. Kilometers
   c. Yards d. Inches

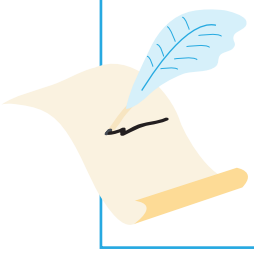
Math
Time

Hours, Days, and Weeks

Answer the questions by converting the units of time.
Remember, 1 day equals 24 hours and 1 week equals 7 days.

Grandma knitted a scarf for me in 2 weeks. How many days did it take her?





Mr. Waterstone wrote a letter to Ms. Jacobs. It took 4 weeks to arrive. How many days did it take?

Tom rode a hot air balloon across the ocean. He was on the balloon for 3 days. How many hours was he on the balloon?

It took Mr. Carpenter a week and one day to fix the fence. How many hours did he spend fixing the fence?

Meg read a book in 3 weeks, 2 days, and 3 hours. How many hours did she spend reading the book?

Math
Time

The Right Time

Answer the questions by converting the units of time.
Remember, 1 hour equals 60 minutes and 1 minute equals 60 seconds.

Pete and Sam practice singing 2 hours everyday. How many minutes do they practice each day?

Jenny plays her trumpet for 1 hour and 45 minutes every evening. How many minutes does she practice each night?

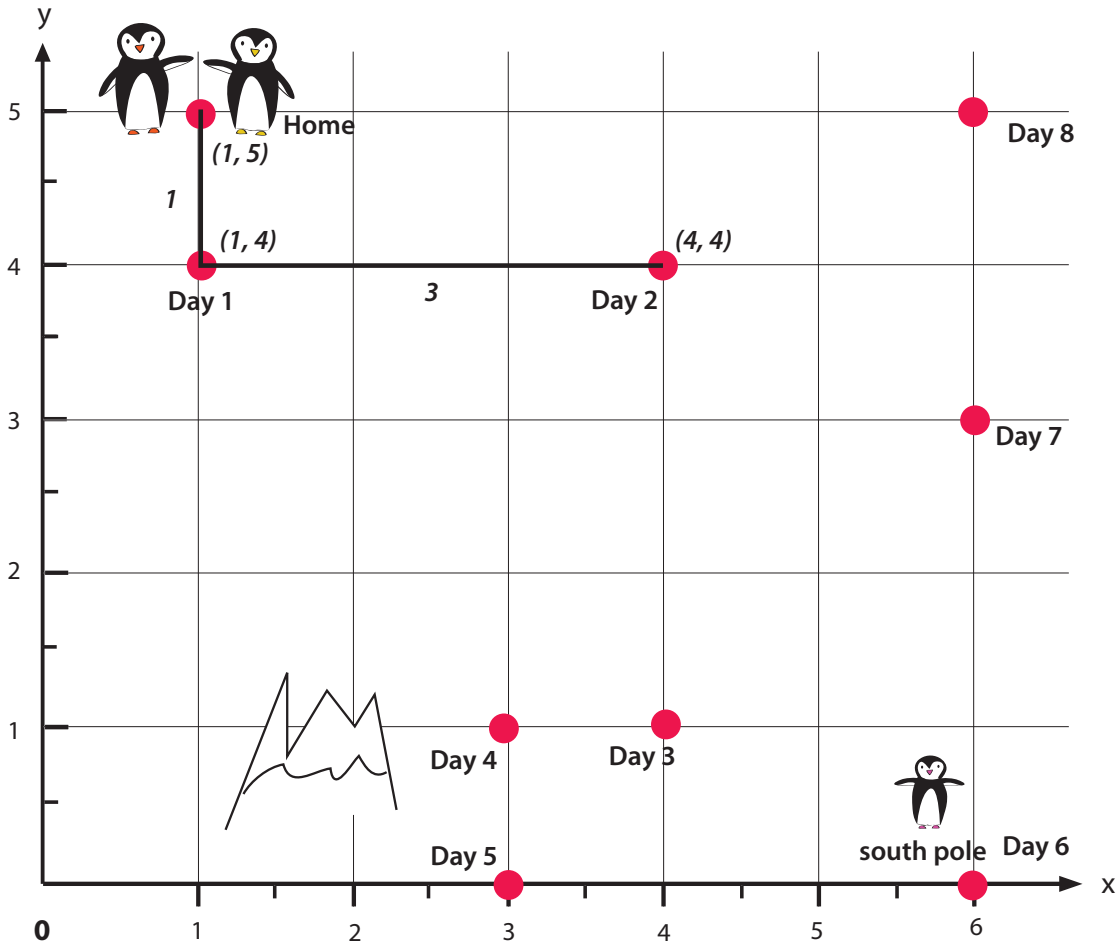
Lynn gives a piano lesson after school everyday. Today she taught for 95 minutes. How many hours did she teach today?

Amy played flute during her recital. The song lasted for 303 seconds. How many minutes did she play?

Denny danced to all the songs on his mp3 player. His mp3 player has 200 minutes and 180 seconds of music. How many hours did he dance?

Traveling to the South Pole: Practice Coordinates and Perimeter

The penguin parents are traveling to the South Pole to pick up their baby, stopping at each point on the grid along the way. Then together, the three of them will go back home in a different route. See how far their route is by finding the distance between the coordinates (see examples below).
Review: The first number refers to X coordinate. The second number refers to Y coordinate.



Example:
Day 1: Distance between home (1, 5) to Day 1 stop (1, 4). Subtract difference of Y-value of each location. Y value of home = 5, Y value of Day 1 stop = 4.
Therefore, the distance is 5 - 4 = 1. Then draw a line from each point and write 1.

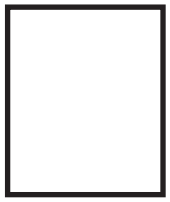
Day 2: Distance between Day 1 stop (1, 4) to Day 2 stop (4, 4). Subtract difference of X-value of each location. X value of Day 2 stop = 4, X value of Day 1 stop = 1.
Therefore, the distance is 4 - 1 = 3. Then draw a line from each point and write 3.

PERIMETER MATCH

Find the ***perimeter*** of each rectangle, then draw at least 2 rectangles that have the same perimeter.

4 ft

6 ft



20 ft

5 ft

5 ft

5 ft

3 ft

12 ft

2 ft

4th Grade

Geometry Detective: Triangle

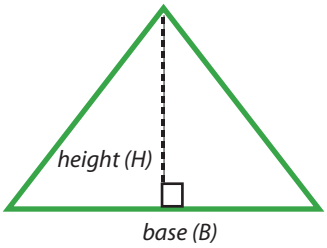
#2

Find area of each triangle using clues from the lengths provided. Show your work.

Review:

Triangle Area = $\frac{1}{2}$ x base x height

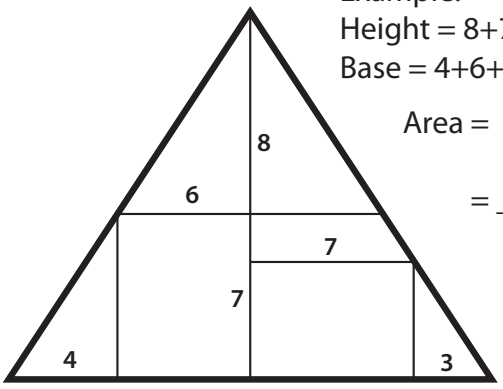
The height of a triangle is the distance from the base to its opposite vertex, or angle.
The base of a triangle can be any of its sides.
The height line and base must be perpendicular to each other.

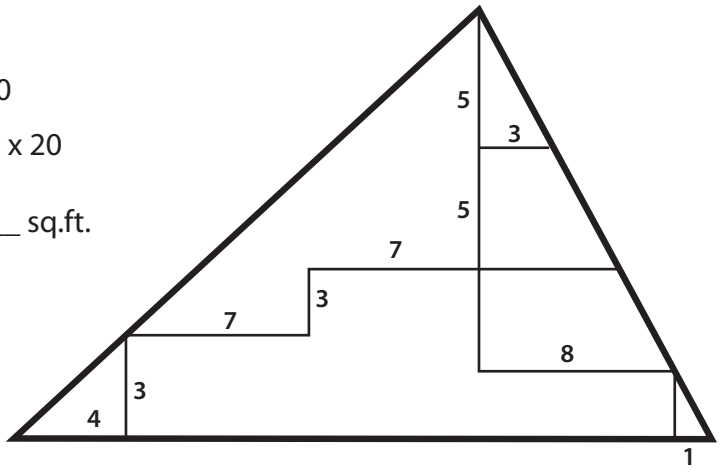


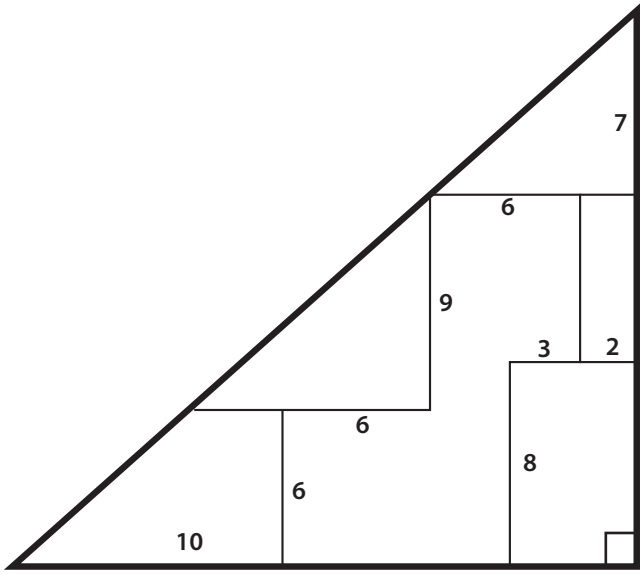
Example:
Height = 8+7 = 15
Base = 4+6+7+3 =20

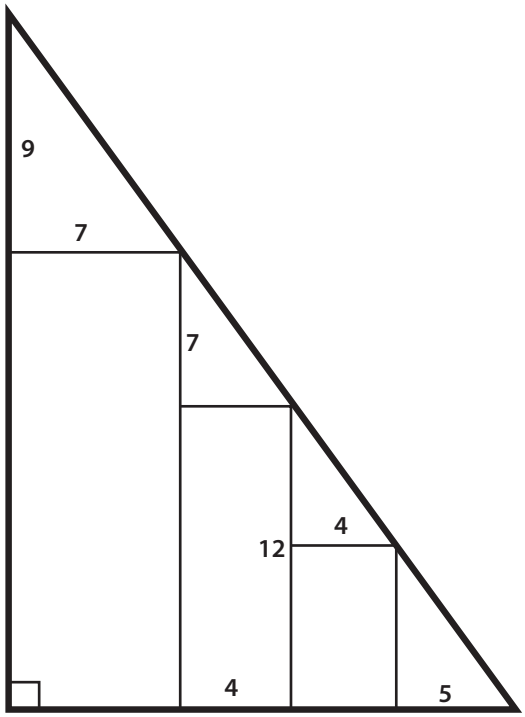
Area = $\frac{1}{2}$ x 15 x 20

= 150 sq.ft.









4th Grade

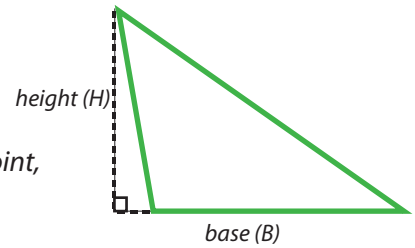
Obtuse Triangle: Practice Finding Area

Use the clues provided to find the area of each triangle. Show your work.

Review:

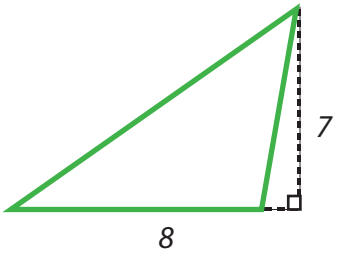
Triangle Area = $\frac{1}{2}$ x base x height

The base of a triangle can be any one of its sides.
The height is the distance from a base to its opposite point, or vertex.
A base must be perpendicular to its height.



An obtuse triangle is a triangle that has one obtuse angle (an angle that is greater than 90 degrees).

Example:

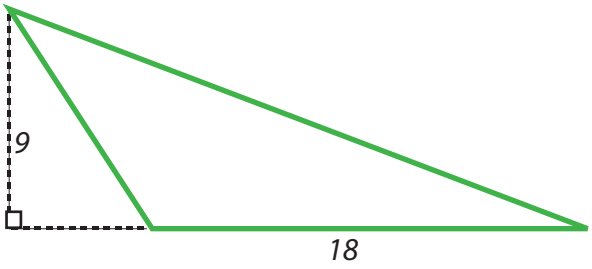


Base = **8** ft.
Height = **7** ft.

Area = $\frac{1}{2}$ x **8 x 7**

= **28** ft.

1

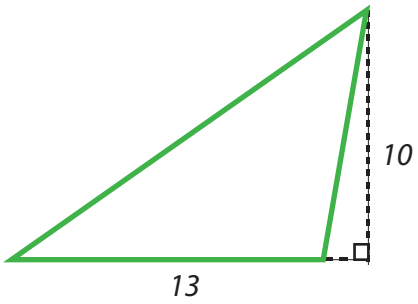


Base = _____ ft.
Height = _____ ft.

Area =

= _____ sq.ft.

2

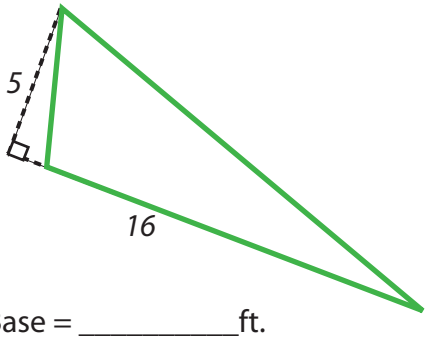


Base = _____ ft.
Height = _____ ft.

Area =

= _____ sq.ft.

3

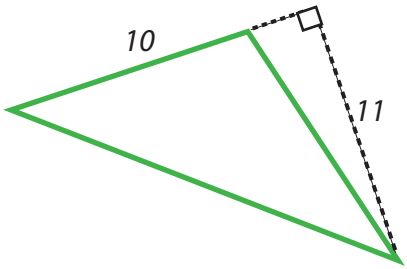


Base = _____ ft.
Height = _____ ft.

Area =

= _____ sq.ft.

4



Base = _____ ft.
Height = _____ ft.

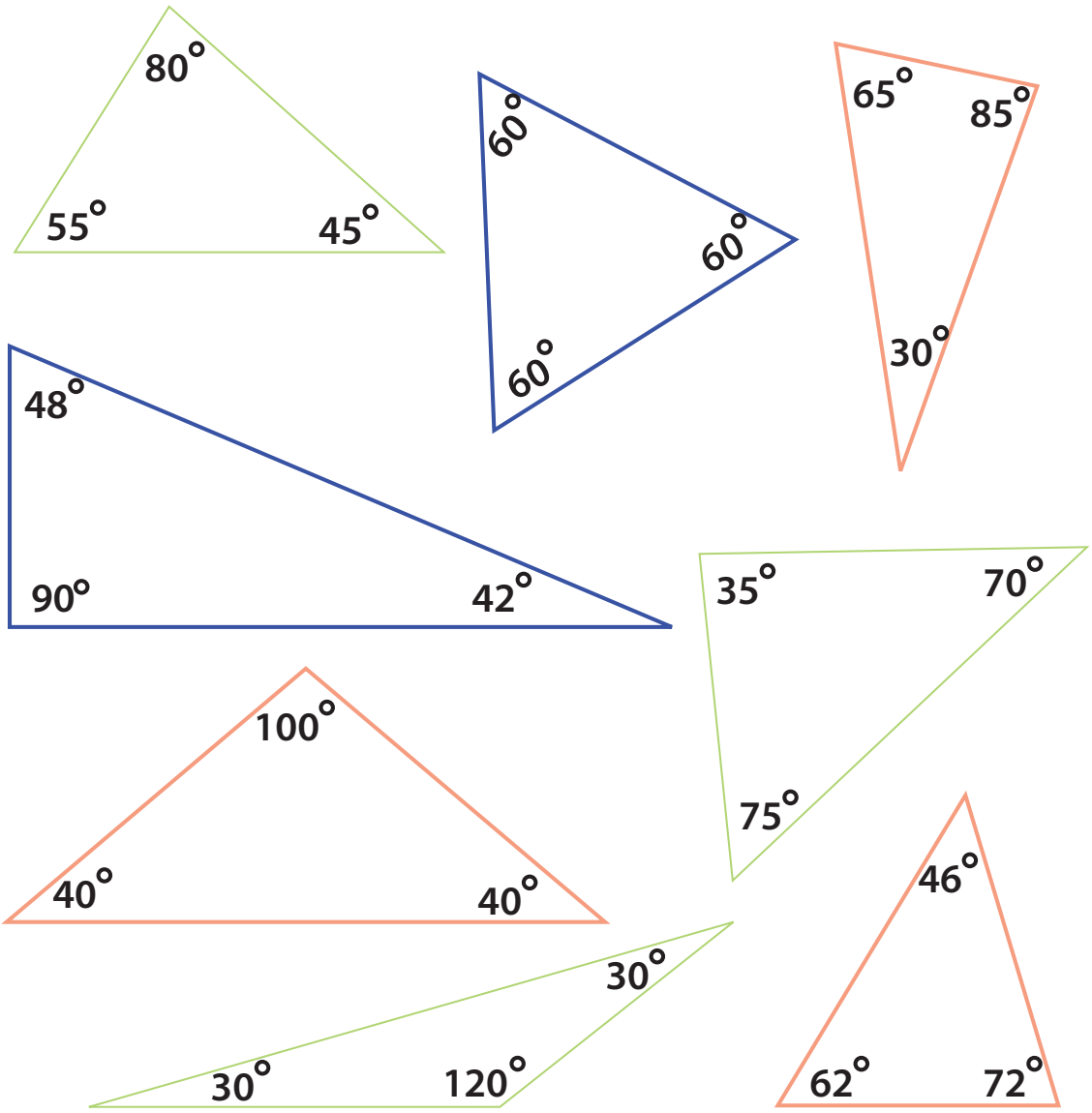
Area =

= _____ sq.ft.

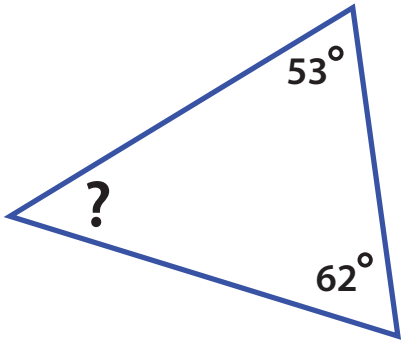
Math
Geometry

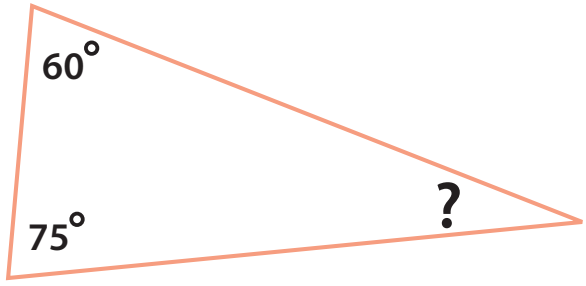
Identifying Triangles: Acute Triangles

An acute triangle is a triangle that has three acute angles (angles that each measure less than 90 degrees). Circle the acute triangles below.



Find the value of the missing angles in these acute triangles. Remember, the three angles in a triangle must add up to 180 degrees.

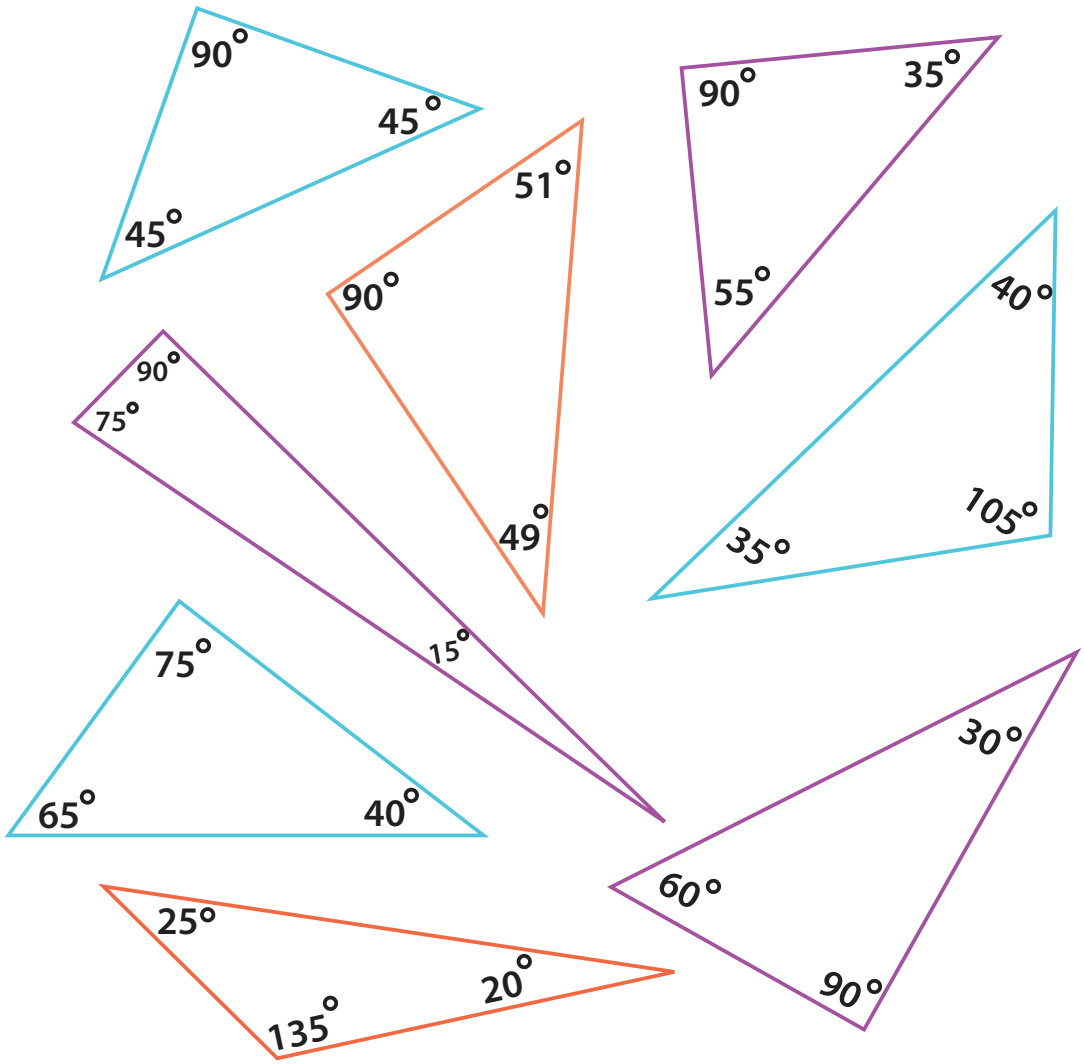




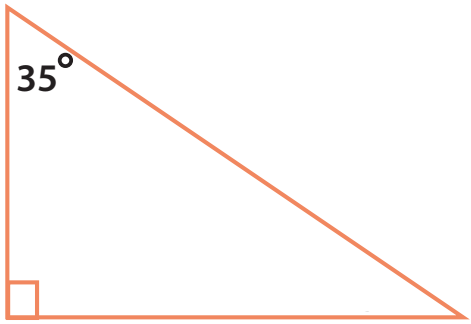
Math
Geometry

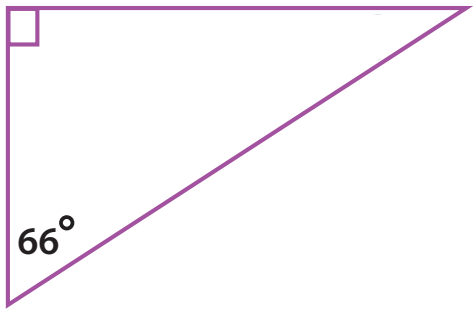
Identifying Triangles: Right Triangles

A right triangle is a triangle that has one right angle (90 degree angle).
Circle the triangles that is a right triangle.



Find the value of the missing angles in these right triangles. Remember, three angles in every triangle always add up to 180 degree.

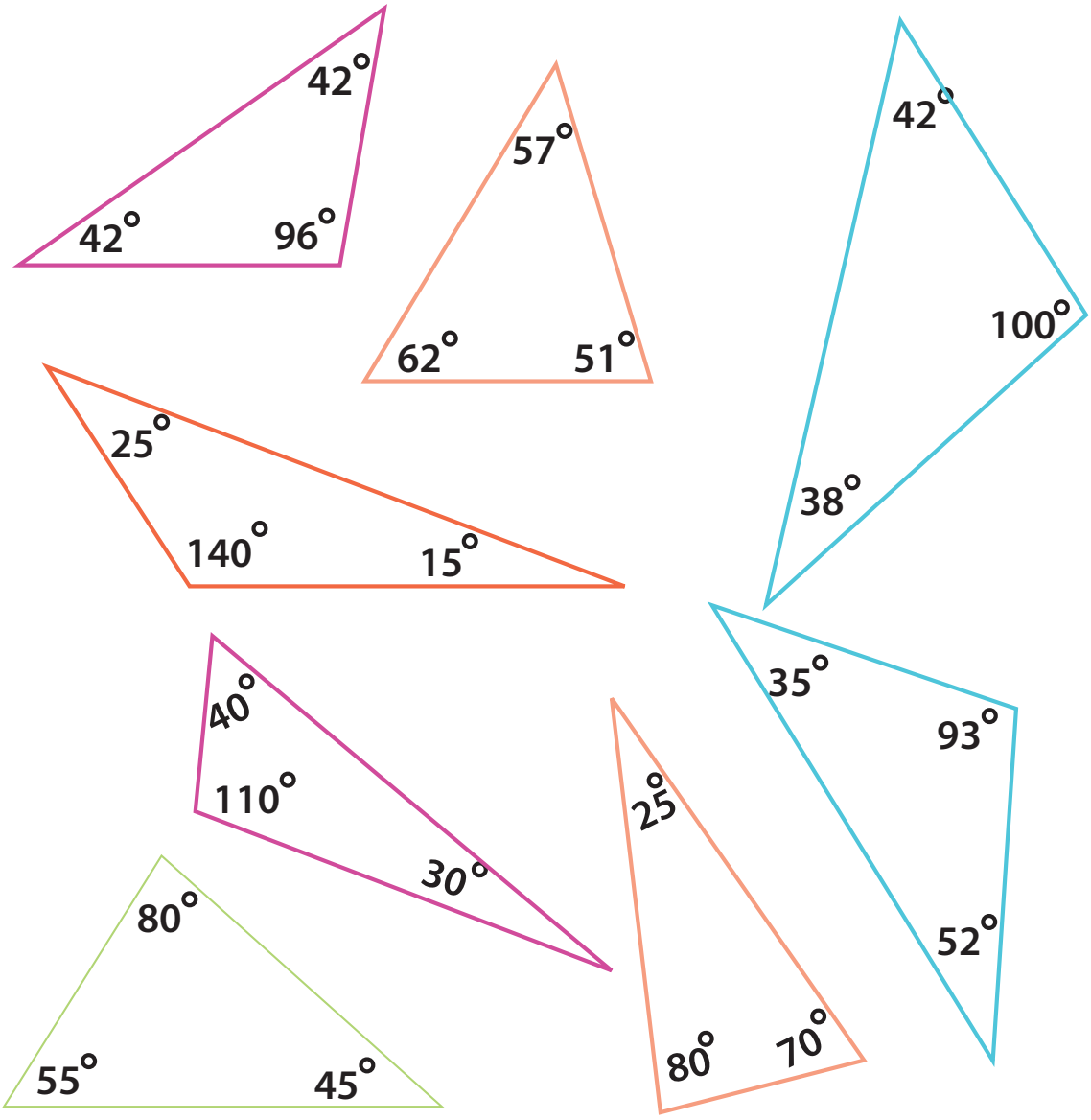




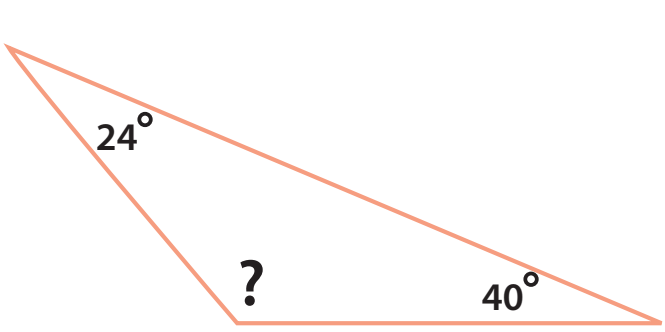
Math
Geometry

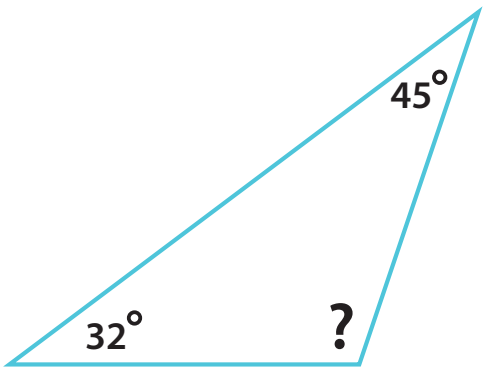
Identifying Triangles: Obtuse Triangles

An obtuse triangle is a triangle that has one obtuse angle (an angle that measures more than 90 degrees). Circle the obtuse triangles below.



Find the value of the missing angles in these obtuse triangles. Remember, the three angles in a triangle must add up to 180 degrees.





4th Grade

Geometry Detective: Triangle

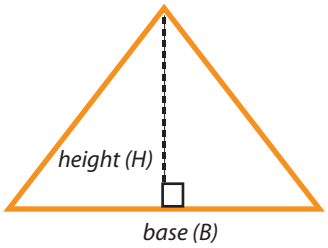
#3

Find the area of each triangle using clues from the lengths provided. Show your work.

Review:

Triangle Area = $\frac{1}{2}$ x base x height

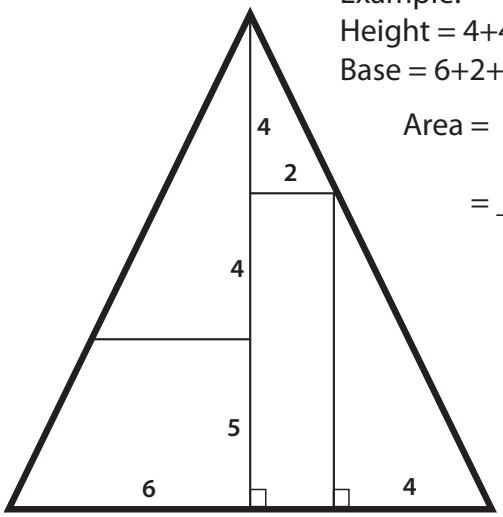
The base of a triangle can be any one of its sides.
The height is the distance from a base to its opposite point, or vertex.
A base must be perpendicular to its height.

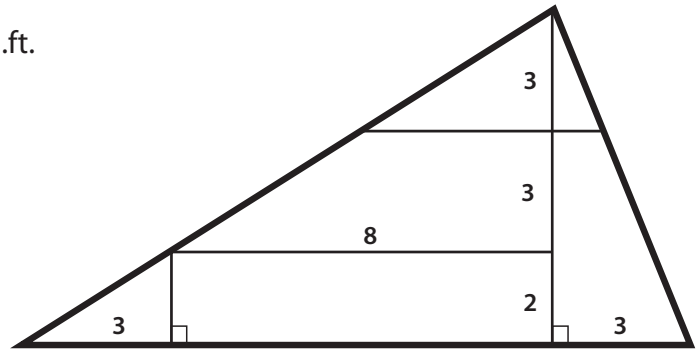


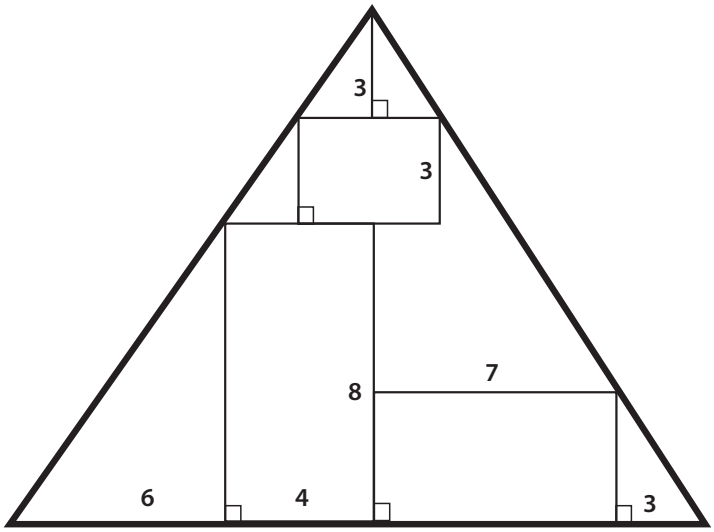
Example:
Height = 4+4+5 = 13
Base = 6+2+4 =12

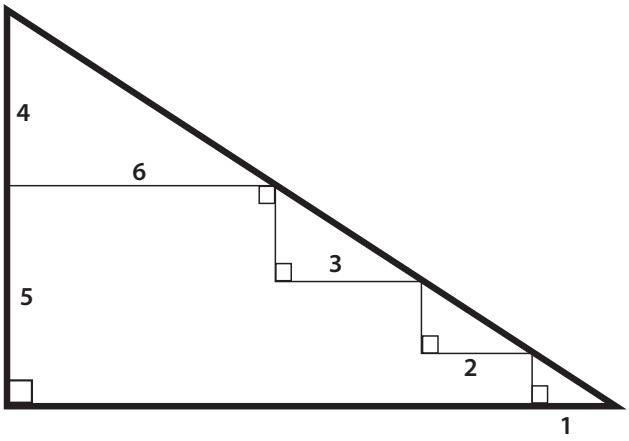
Area = $\frac{1}{2}$ x 13 x 12

= 78 sq.ft.









PERIMETER MATCH

Find the ***perimeter*** of each rectangle, then draw at least 2 rectangles that have the same perimeter.

9 ft

4 ft

26 ft

7 ft

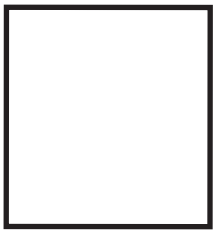
6 ft

4 ft

2 ft

3 ft

6 ft



4th Grade

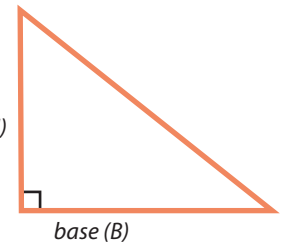
Right Triangle: Practice Finding Area

Use the clues provided to find the area of each triangle. Show your work.

Review:

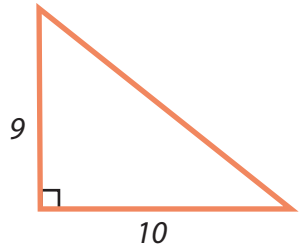
Triangle Area = $\frac{1}{2}$ x base x height

The base of a triangle can be any one of its sides.
The height is the distance from a base to its opposite point, or vertex.
A base must be perpendicular to its height.



A right triangle is a triangle that has one right angle (90 degree angle). So the height is the side of a triangle.

Example:

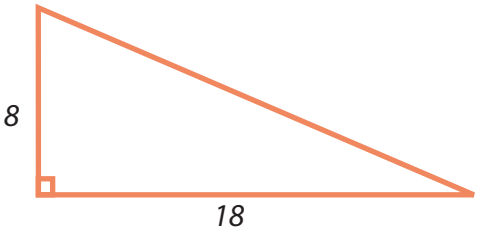


Base = **10** ft.
Height = **9** ft.

Area = $\frac{1}{2}$ x **10 x 9**

= **45** ft.

1

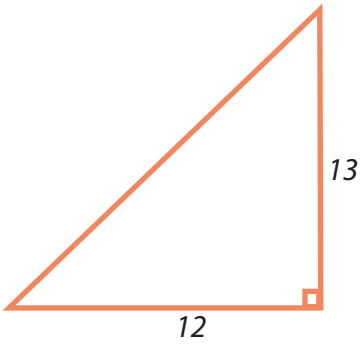


Base = _____ ft.
Height = _____ ft.

Area =

= _____ sq.ft.

2

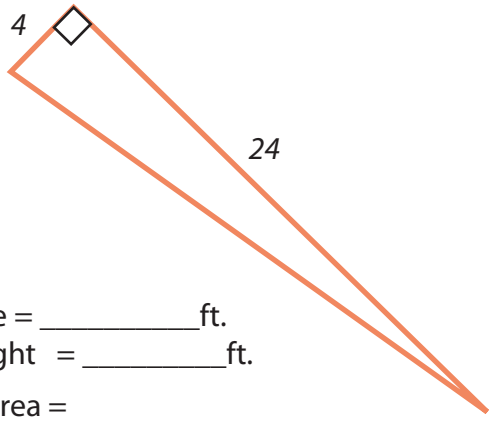


Base = _____ ft.
Height = _____ ft.

Area =

= _____ sq.ft.

3

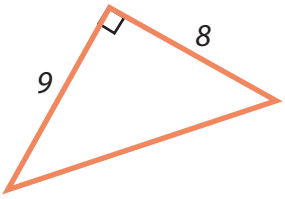


Base = _____ ft.
Height = _____ ft.

Area =

= _____ sq.ft.

4



Base = _____ ft.
Height = _____ ft.

Area =

= _____ sq.ft.

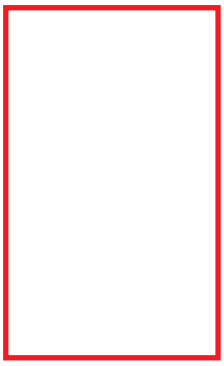
PERIMETER MATCH

Find the ***perimeter*** of each rectangle, then draw at least 2 rectangles that have the same perimeter.

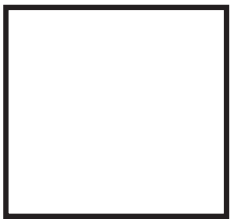
8 ft

32 ft

6 ft

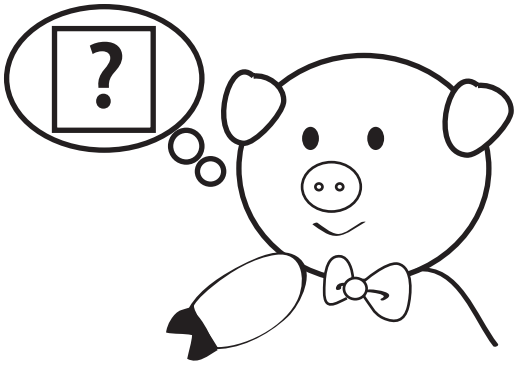


5 ft



5 ft

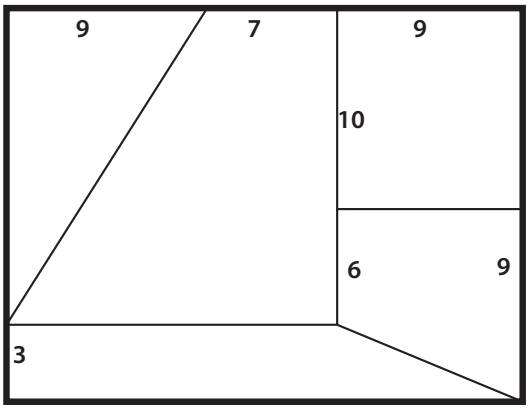
Finding Area: Medium



Help Piggy pick a room with the largest area. Add up the sides using the lengths of each tile, then find the area. Remember, Area = L x W.

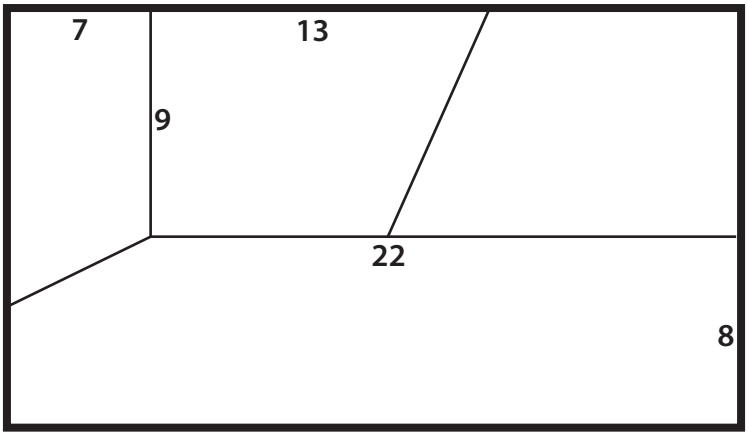
Example:

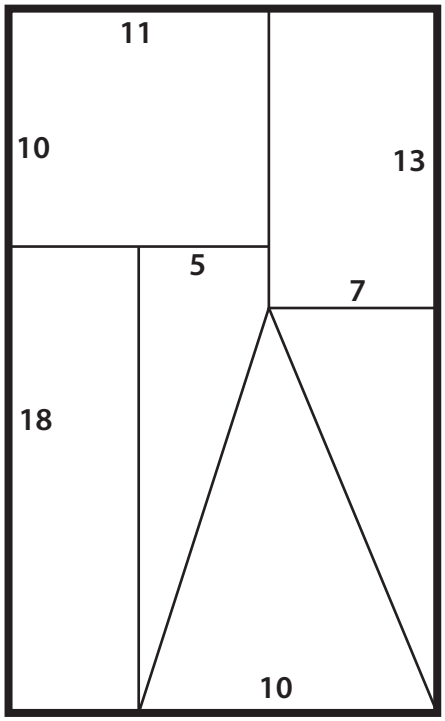
9 + 7 + 9 = 25

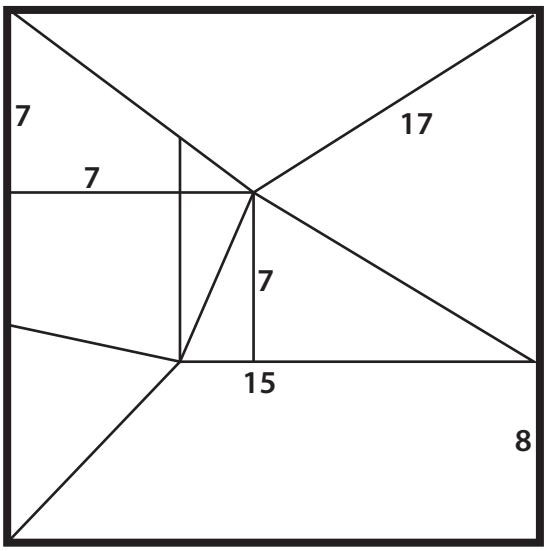


10 + 6 + 3 = 19

Area = 25 x 19 = 475 sq.ft.







4th Grade

Farming Fun!

Practice Finding Area

Divide the land into different sections to plant each type of vegetable.
Color and label it. Each square equals one square foot.

 = 40 square feet

 = 22 square feet

 = 24 square feet

 = 36 square feet

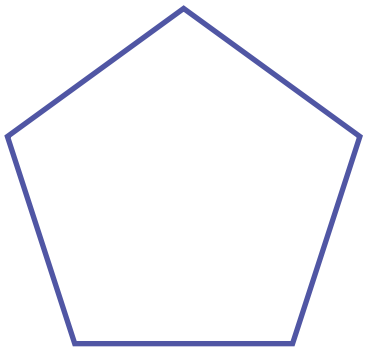
 = 18 square feet

 equals 1 square foot

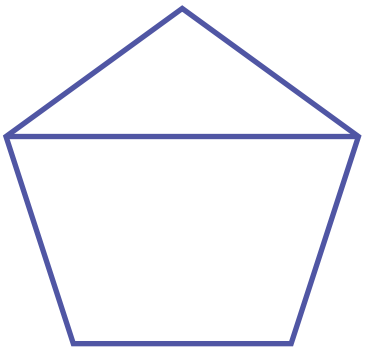
Pentagon: Calculating Area

A pentagon contains many shapes that you probably already know. Use a ruler to divide the pentagon into regular shapes that you are familiar with. Then, name the shapes you created. This will help you practice finding the area of irregular shapes.

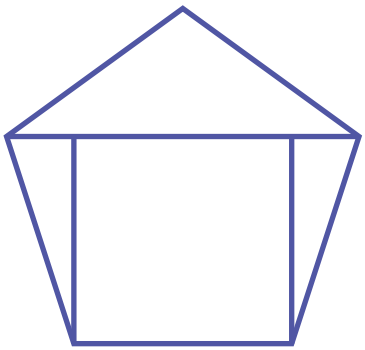
Example:



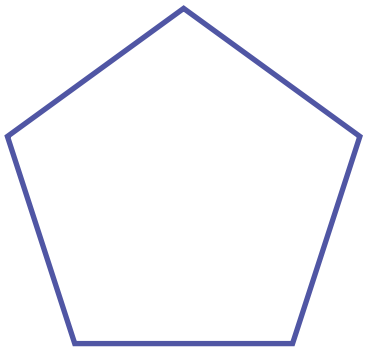
One pentagon

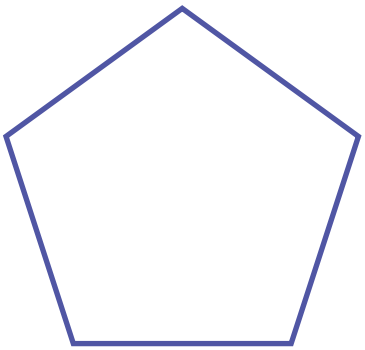


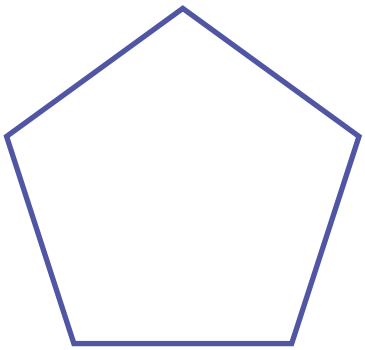
One triangle
One trapezoid

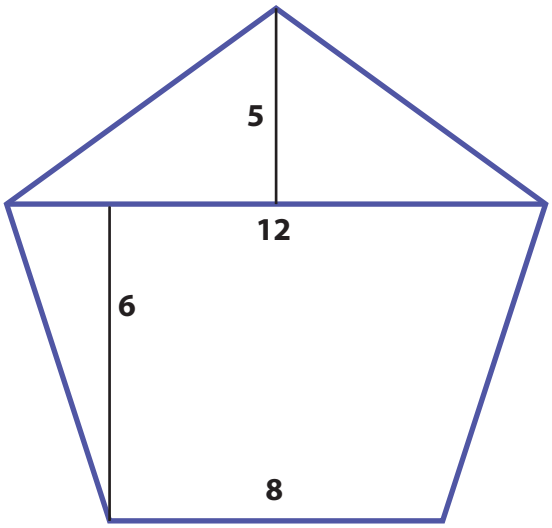


Three triangles
One rectangle









Challenge!

Calculate the area of this pentagon using the heights and lengths of the geometric shapes.

PERIMETER MATCH

Find the ***perimeter*** of each rectangle, then draw at least 2 rectangles that have the same perimeter.

15 ft

5 ft

40 ft

8 ft

12 ft

3 ft

9 ft

10 ft

7 ft

4th Grade

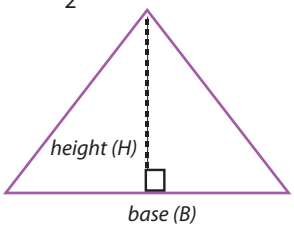
Find a New Home ?

Help Mr. Rabbit find his new home. The total area of his place has to be at least ***60*** square feet. This includes the area of a roof (triangle) plus the area of the house (rectangle).

Review:

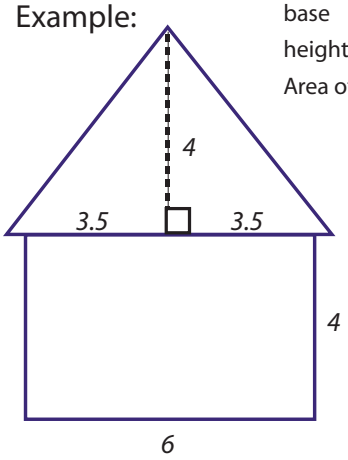
Rectangle Area = length x width

Triangle Area = $\frac{1}{2}$ x base x height



The base of a triangle can be any one of its sides.
The height is the distance from a base to its opposite point, or vertex.
A base must be perpendicular to its height.

Example:



base = 3.5 + 3.5 = 7

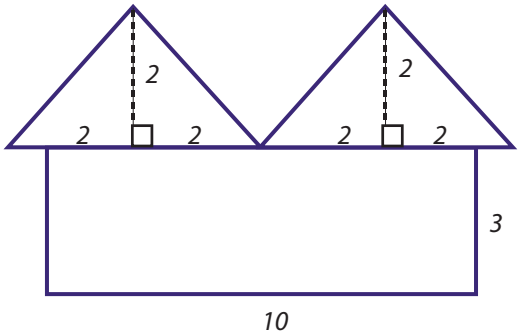
height = 4

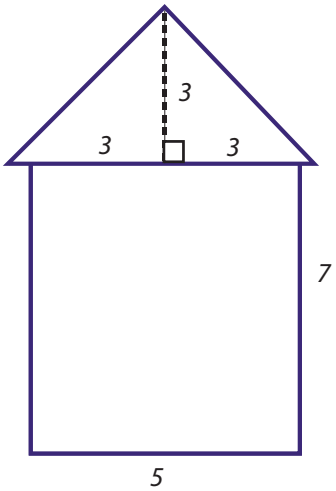
Area of the roof = $\frac{1}{2}$ x base x height

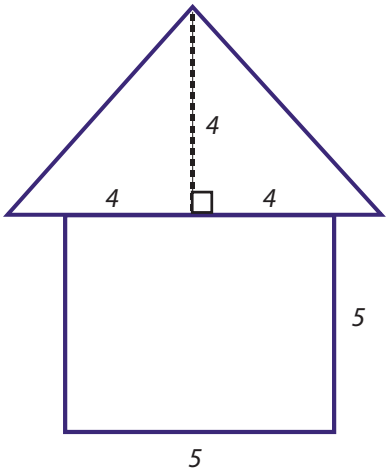
= $\frac{1}{2}$ x 7 x 4 = 14

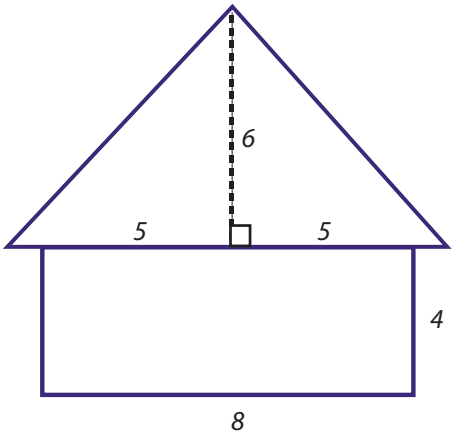
Area of the rectangle = 6 x 4 = 24

Total area = 14 + 24 = 38 square feet.







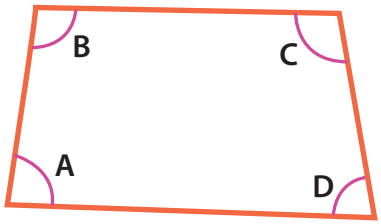


Which home should Mr. Rabbit move into? Circle it.

Math
Geometry

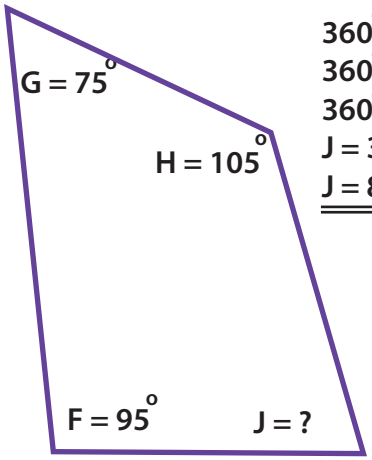
The Missing Angle: Quadrilaterals

In every quadrilateral, all four angles add up to 360°.

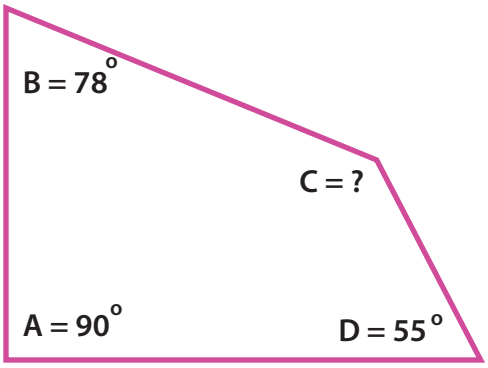


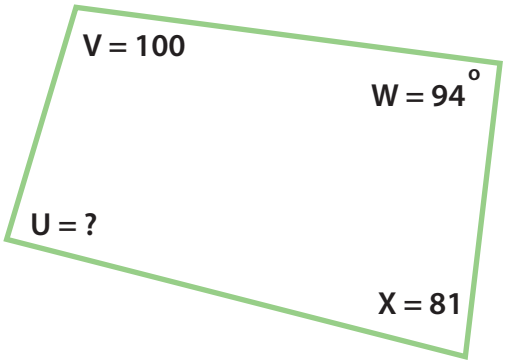
$360 = A + B + C + D$

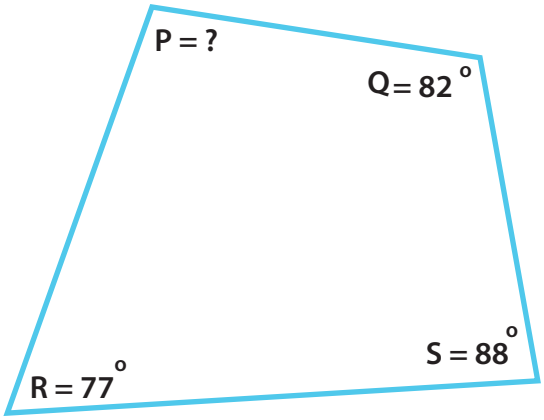
Use this rule to find the missing angle in the quadrilaterals. See the example.



$360° = F + G + H + J$
$360° = 95° + 75° + 105° + J$
$360° = 275° + J$
$J = 360° - 275°$
$J = 85°$

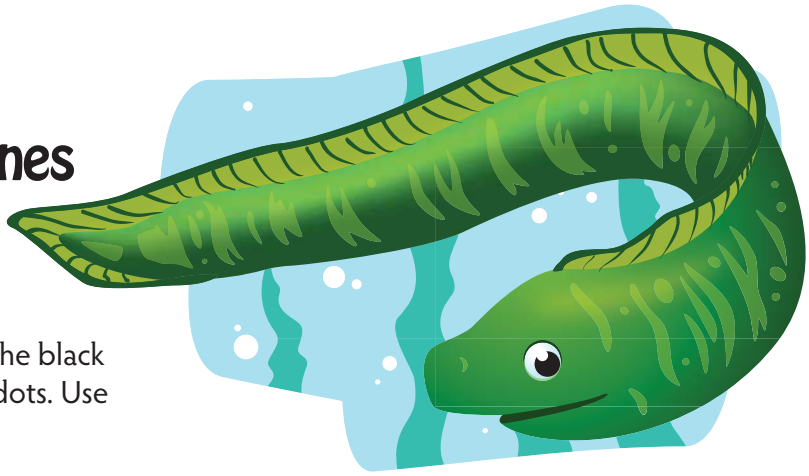






Parallel and Perpendicular lines

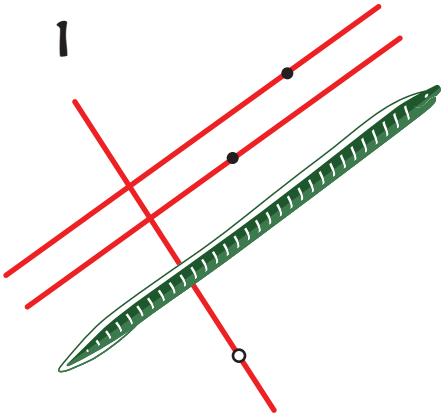
Elouisa the Eel



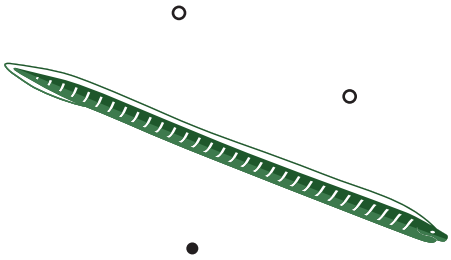
Elouisa the Eel needs help learning parallel and perpendicular lines. Draw parallel lines through the black dots and perpendicular lines through the white dots. Use a ruler to help you draw straight lines.

● Parallel ○ Perpendicular

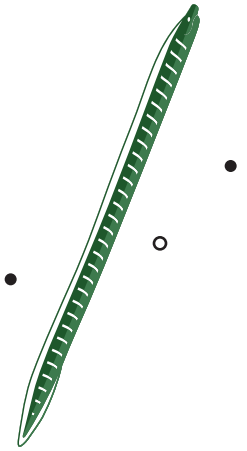
1



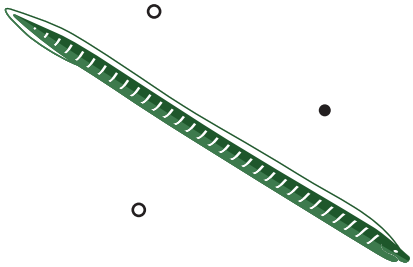
2



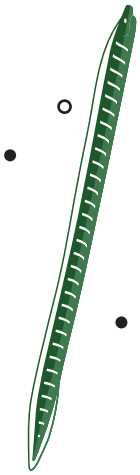
3



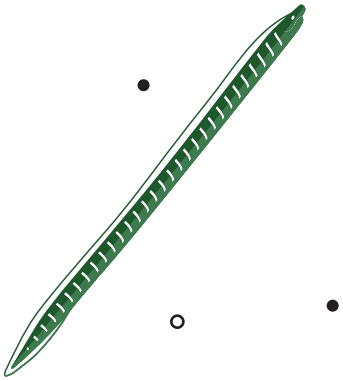
4



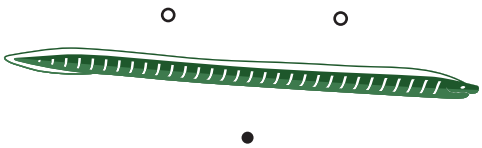
5



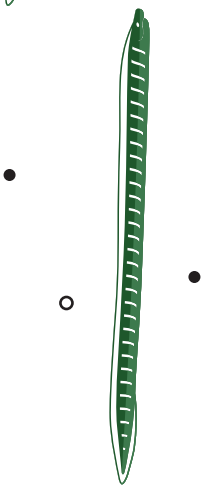
6



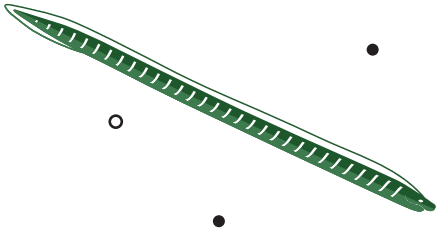
7



8



9



MATH

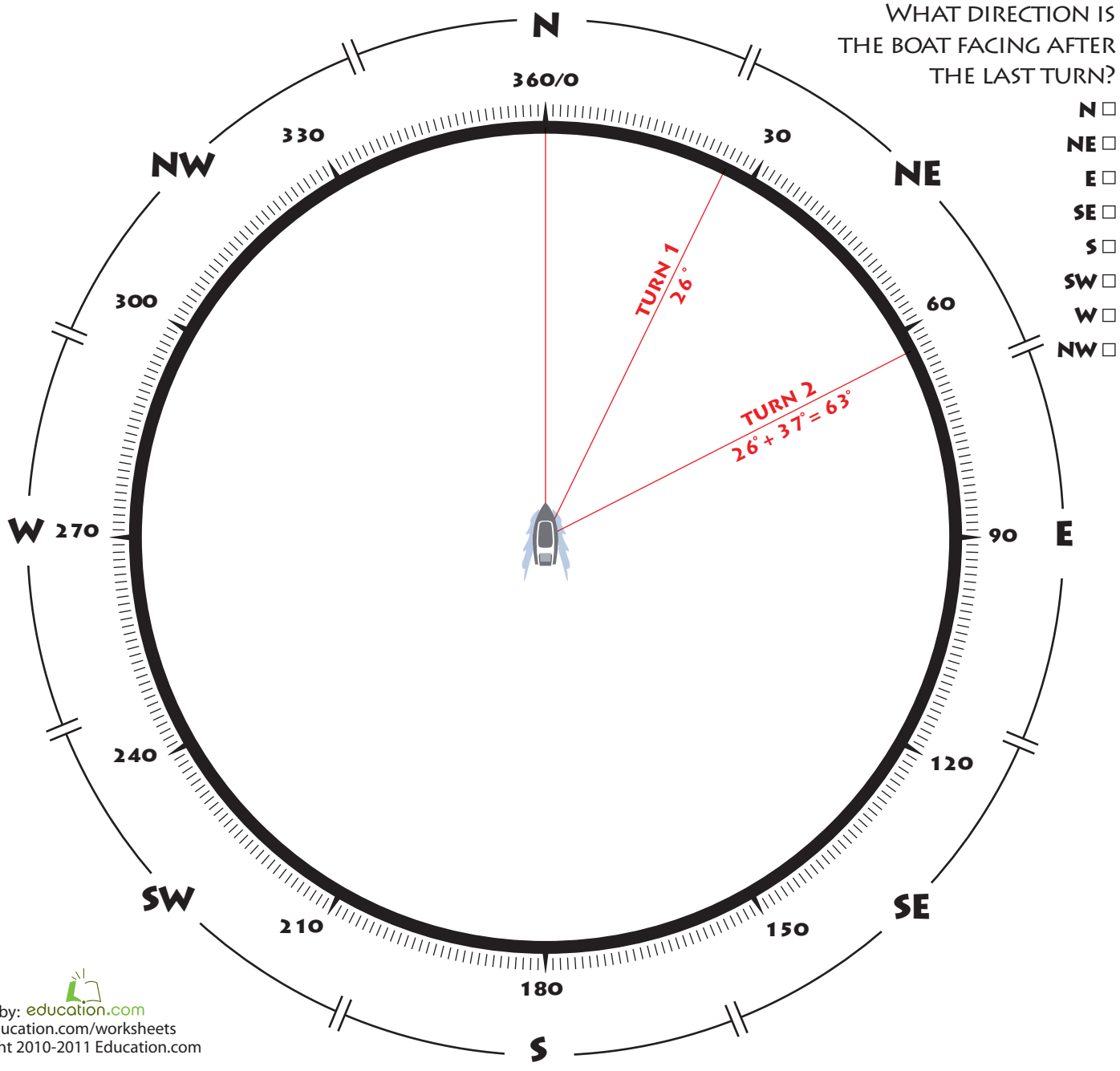
GEOMETRY

ANGLE STEERING 1

Steering a ship requires practice and precision. It also requires you to think about math and angles.

Turn the ship's wheel according to the angle measurements given. See the examples below. With each new turn, indicate the ship's new direction by drawing a line towards it. Turn clockwise if the angle is positive, counterclockwise if it is negative. Use a ruler to help you draw straight lines.

	1	2	3	4	5	6	7	8	9	10	11	12
Turn Degrees	+26°	+37°	−51°	+153°	−92°	−30°	−9°	+185°	−67°	+49°	+93°	−60°
New Direction	26°	63°										



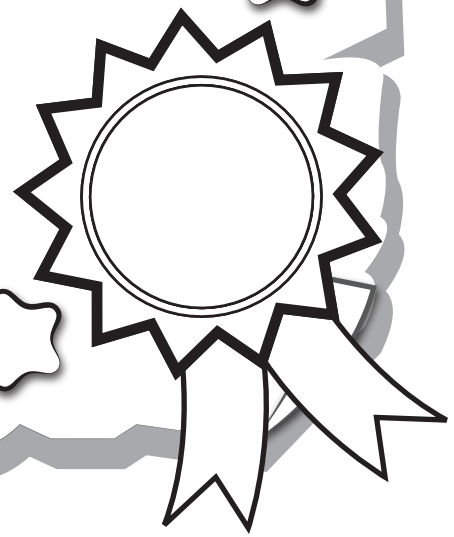
WHAT DIRECTION IS THE BOAT FACING AFTER THE LAST TURN?

- N ☐
- NE ☐
- E ☐
- SE ☐
- S ☐
- SW ☐
- W ☐
- NW ☐

Great job!

_____

is an Education.com math superstar



Answer Sheets

Geometry and Measurement

Acute Triangle: Practice Finding Area
Units of Measurement
Hours, Days, and Weeks
The Right Time
Traveling to the South Pole: Practice Coordinates and Perimeter
Perimeter Match #1
Geometry Detective: Triangle #1
Obtuse Triangle: Practice Finding Area
Identifying Triangles: Acute Triangles
Identifying Triangles: Right Triangles
Identifying Triangles: Obtuse Triangles
Geometry Detective: Triangle #2
Perimeter Match #2
Right Triangle: Practice Finding Area
Perimeter Match #3
Finding Area: Medium
Pentagon: Calculating Area
Perimeter Match #4
Find a New Home
The Missing Angle: Quadrilaterals
Parallel and Perpendicular Lines
Angle Steering

Answer Sheet

Answer Sheet

4th Grade

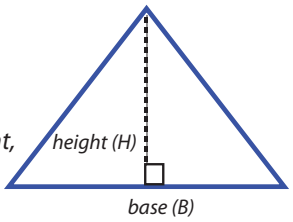
Acute Triangle: Practice Finding Area

Use the clues provided to find the area of each triangle. Show your work.

Review:

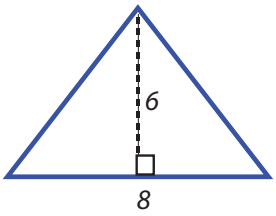
Triangle Area = $\frac{1}{2}$ x base x height

The base of a triangle can be any one of its sides.
The height is the distance from a base to its opposite point, or vertex.
A base must be perpendicular to its height.



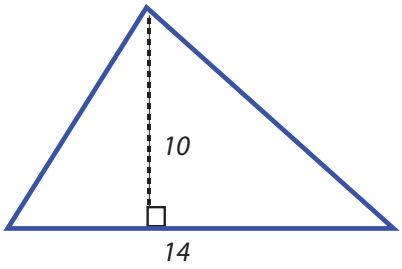
An acute triangle is a triangle that has three acute angles (angles that measure between 0 and 90 degrees).

Example:



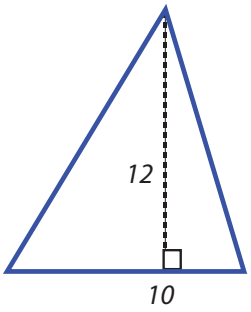
Base = 8 ft.
Height = 6 ft.
Area = $\frac{1}{2}$ x 8 x 6
= 24 ft.

1



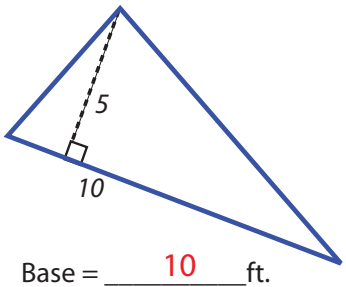
Base = 14 ft.
Height = 10 ft.
Area = $\frac{1}{2}$ x 14 x 10
= 70 sq.ft.

2



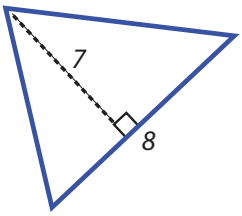
Base = 10 ft.
Height = 12 ft.
Area = $\frac{1}{2}$ x 10 x 12
= 60 sq.ft.

3



Base = 10 ft.
Height = 5 ft.
Area = $\frac{1}{2}$ x 10 x 5
= 25 sq.ft.

4



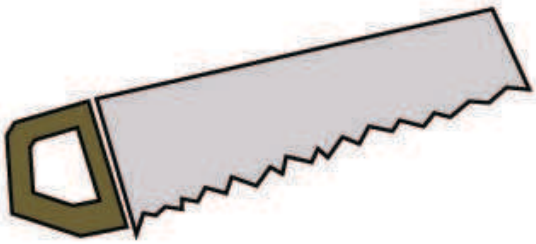
Base = 8 ft.
Height = 7 ft.
Area = $\frac{1}{2}$ x 8 x 7
= 28 sq.ft.

Answer Sheet

Units of Measurement

Help Franky decide what is the best unit of measurement to bulid areas of his house!

1. Length of the bedroom



a. Inches b. Miles

c. Millimeters d. Feet

2. Height of ceiling

a. Feet b. Kilometers

c. Miles d. Centimeters

3. Width of fence boards

a. Miles b. Yards

c. Inches d. Feet

4. Water for pool

a. Cups b. Gallons

c. Tablespoons d. Liters

5. Length of lawn

a. Centimeters b. Kilometers

c. Yards d. Inches

Answer Sheet

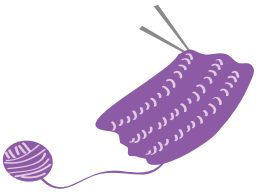
Math Time

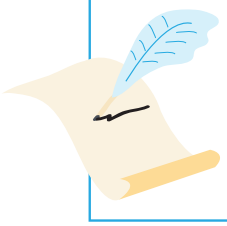
Hours, Days, and Weeks

Answer the questions by converting the units of time.
Remember, 1 day equals 24 hours and 1 week equals 7 days.

Grandma knitted a scarf for me in 2 weeks. How many days did it take her?

(2 weeks) x (7 days) = 14 days





Mr. Waterstone wrote a letter to Ms. Jacobs. It took 4 weeks to arrive. How many days did it take?

(4 weeks) x (7 days) = 28 days

Tom rode a hot air balloon across the ocean. He was on the balloon for 3 days. How many hours was he on the balloon?

(3 days) x (24 hours) = 72 hours

It took Mr. Carpenter a week and one day to fix the fence. How many hours did he spend fixing the fence?

(1 week) + (1 day) = 8 days

(8 days) x (24 hours) = 192 hours

Meg read a book in 3 weeks, 2 days, and 3 hours. How many hours did she spend reading the book?

(3 weeks) + (2 days) = 23 days

(23 days) x (24 hours) = 552 hours

(552 hours) + (3 hours) = 555 hours

Answer Sheet

Math / Time

The Right Time

Answer Sheet

Answer the questions by converting the units of time.
Remember, 1 hour equals 60 minutes and 1 minute equals 60 seconds.

Pete and Sam practice singing 2 hours everyday. How many minutes do they practice each day?

2 hours x 60 minutes = 120 minutes

Jenny plays her trumpet for 1 hour and 45 minutes every evening. How many minutes does she practice each night?

60 + 45 = 105 minutes

Lynn gives a piano lesson after school everyday. Today she taught for 95 minutes. How many hours did she teach today?

$\frac{95}{60}$ = 1 hour 35 minutes

Amy played flute during her recital. The song lasted for 303 seconds. How many minutes did she play?

$\frac{303}{60}$ = 5 minutes 3 seconds

Denny danced to all the songs on his mp3 player. His mp3 player has 200 minutes and 180 seconds of music. How many hours did he dance?

$\frac{180}{60}$ = 3 minutes $\frac{200}{60}$ = 3 hours 20 minutes

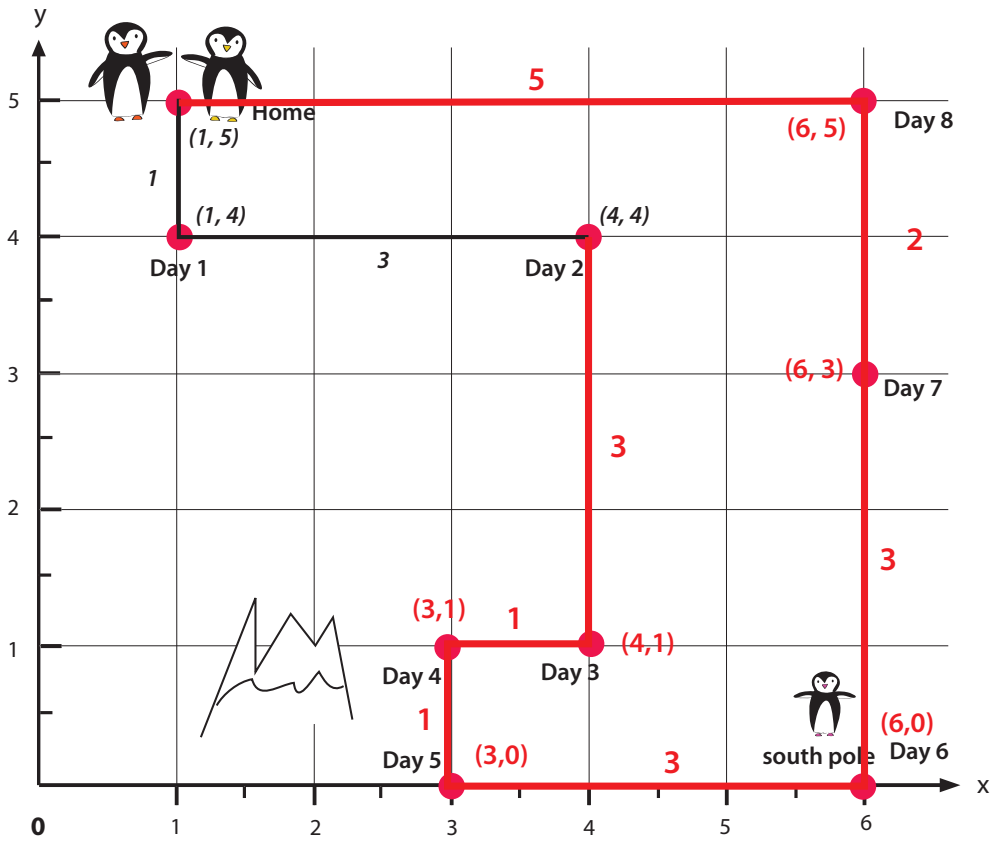
3 hours 23 minutes

Answer Sheet

Answer Sheet

Traveling to the South Pole: Practice Coordinates and Perimeter

The penguin parents are traveling to the South Pole to pick up their baby, stopping at each point on the grid along the way. Then together, the three of them will go back home in a different route. See how far their route is by finding the distance between the coordinates (see examples below).
Review: The first number refers to X coordinate. The second number refers to Y coordinate.



Example:
Day 1: Distance between home (1, 5) to Day 1 stop (1, 4). Subtract difference of Y-value of each location. Y value of home = 5, Y value of Day 1 stop = 4.
Therefore, the distance is 5 - 4 = 1. Then draw a line from each point and write 1.

Day 2: Distance between Day 1 stop (1, 4) to Day 2 stop (4, 4). Subtract difference of X-value of each location. X value of Day 2 stop = 4, X value of Day 1 stop = 1.
Therefore, the distance is 4 - 1 = 3. Then draw a line from each point and write 3.

Day 3: (4,1)
4 - 1 = 3

Day 4: (3,1)
4 - 3 = 1

Day 5: (3,0)
1 - 0 = 1

Day 6: (6,0)
6 - 3 = 3

Day 7: (6,3)
3 - 0 = 3

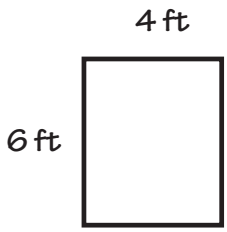
Day 8: (6,5)
5 - 3 = 2

Day 8 to Home:
6 - 1 = 5

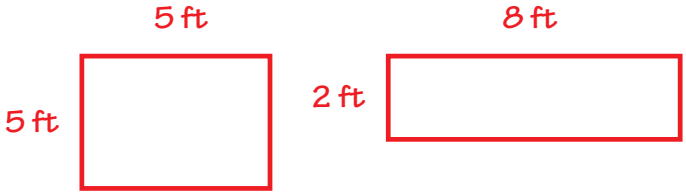
Answer Sheet

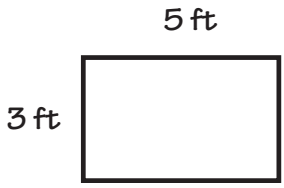
PERIMETER MATCH

Find the ***perimeter*** of each rectangle, then draw at least 2 rectangles that have the same perimeter.

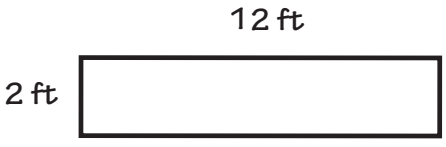


20 ft

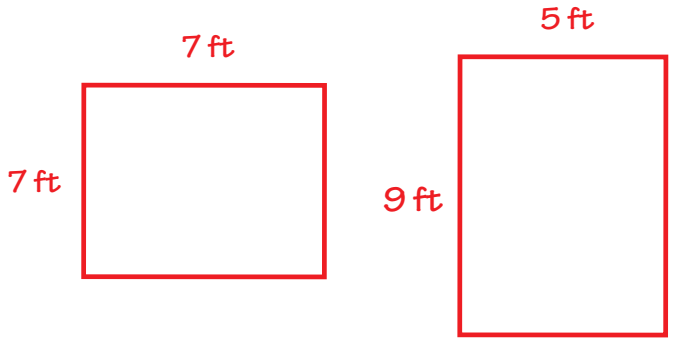




16 ft



28 ft



Answer Sheet

4th Grade

Geometry Detective: Triangle #2

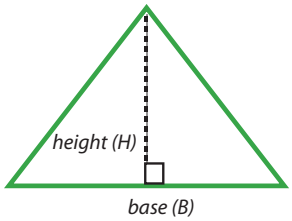
Answer Sheet

Find area of each triangle using clues from the lengths provided. Show your work.

Review:

Triangle Area = $\frac{1}{2}$ x base x height

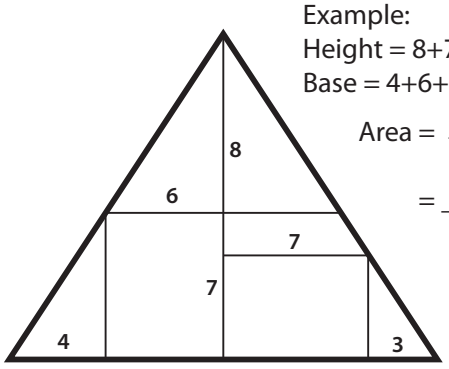
The height of a triangle is the distance from the base to its opposite vertex, or angle.
The base of a triangle can be any of its sides.
The height line and base must be perpendicular to each other.

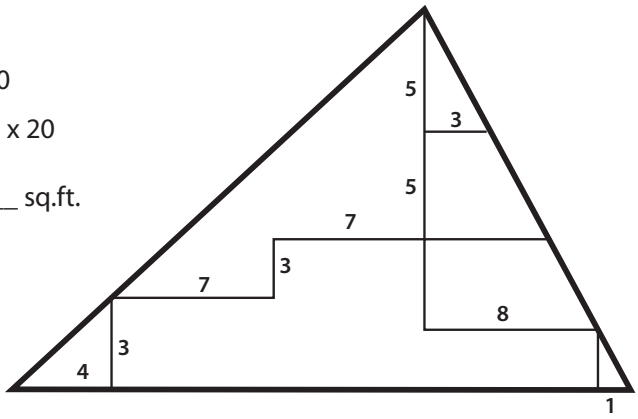


Example:
Height = 8+7 = 15
Base = 4+6+7+3 =20

Area = $\frac{1}{2}$ x 15 x 20

= **150** sq.ft.





Height = 5 + 5 + 3 +3 = 16
Base = 4 + 7 + 7 + 8 +1 = 27

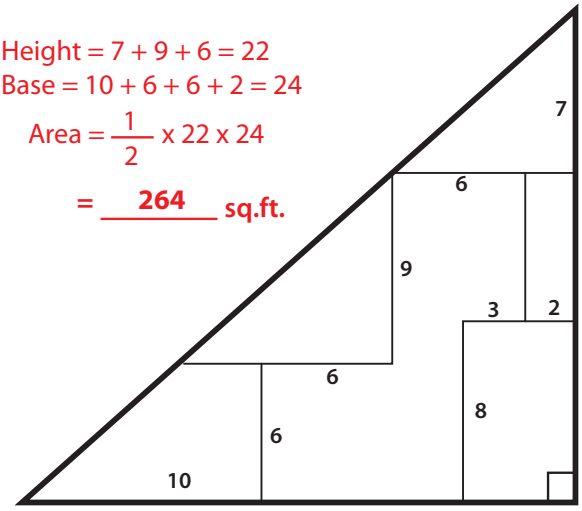
Area = $\frac{1}{2}$ x 16 x 27

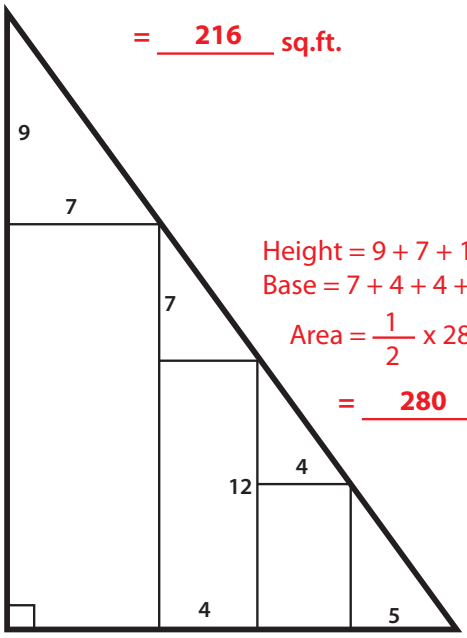
= **216** sq.ft.

Height = 7 + 9 + 6 = 22
Base = 10 + 6 + 6 + 2 = 24

Area = $\frac{1}{2}$ x 22 x 24

= **264** sq.ft.





Height = 9 + 7 + 12 = 28
Base = 7 + 4 + 4 + 5 = 20

Area = $\frac{1}{2}$ x 28 x 20

= **280** sq.ft.

Answer Sheet

4th Grade

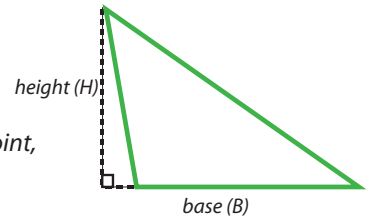
Answer Sheet
Obtuse Triangle: Practice Finding Area

Use the clues provided to find the area of each triangle. Show your work.

Review:

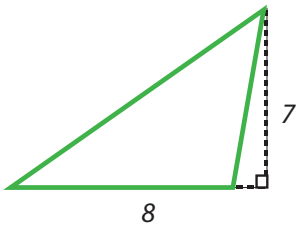
Triangle Area = $\frac{1}{2}$ x base x height

The base of a triangle can be any one of its sides.
The height is the distance from a base to its opposite point, or vertex.
A base must be perpendicular to its height.



An obtuse triangle is a triangle that has one obtuse angle (an angle that is greater than 90 degrees).

Example:

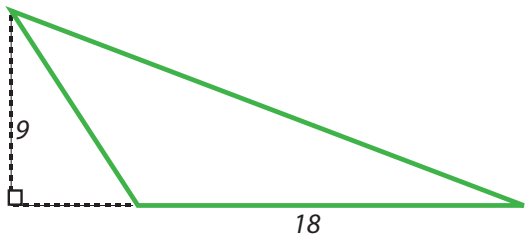


Base = 8 ft.
Height = 7 ft.

Area = $\frac{1}{2}$ x 8 x 7

= 28 ft.

1

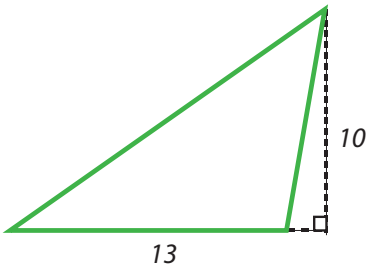


Base = 18 ft.
Height = 9 ft.

Area = $\frac{1}{2}$ x 18 x 9

= 81 sq.ft.

2

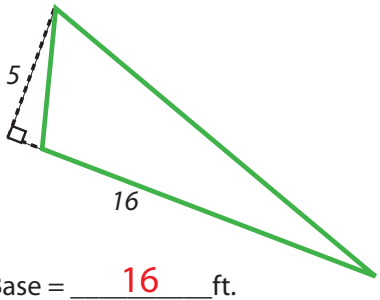


Base = 13 ft.
Height = 10 ft.

Area = $\frac{1}{2}$ x 13 x 10

= 65 sq.ft.

3

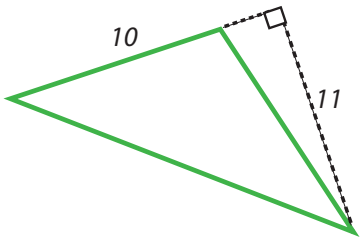


Base = 16 ft.
Height = 5 ft.

Area = $\frac{1}{2}$ x 16 x 5

= 40 sq.ft.

4



Base = 10 ft.
Height = 11 ft.

Area = $\frac{1}{2}$ x 10 x 11

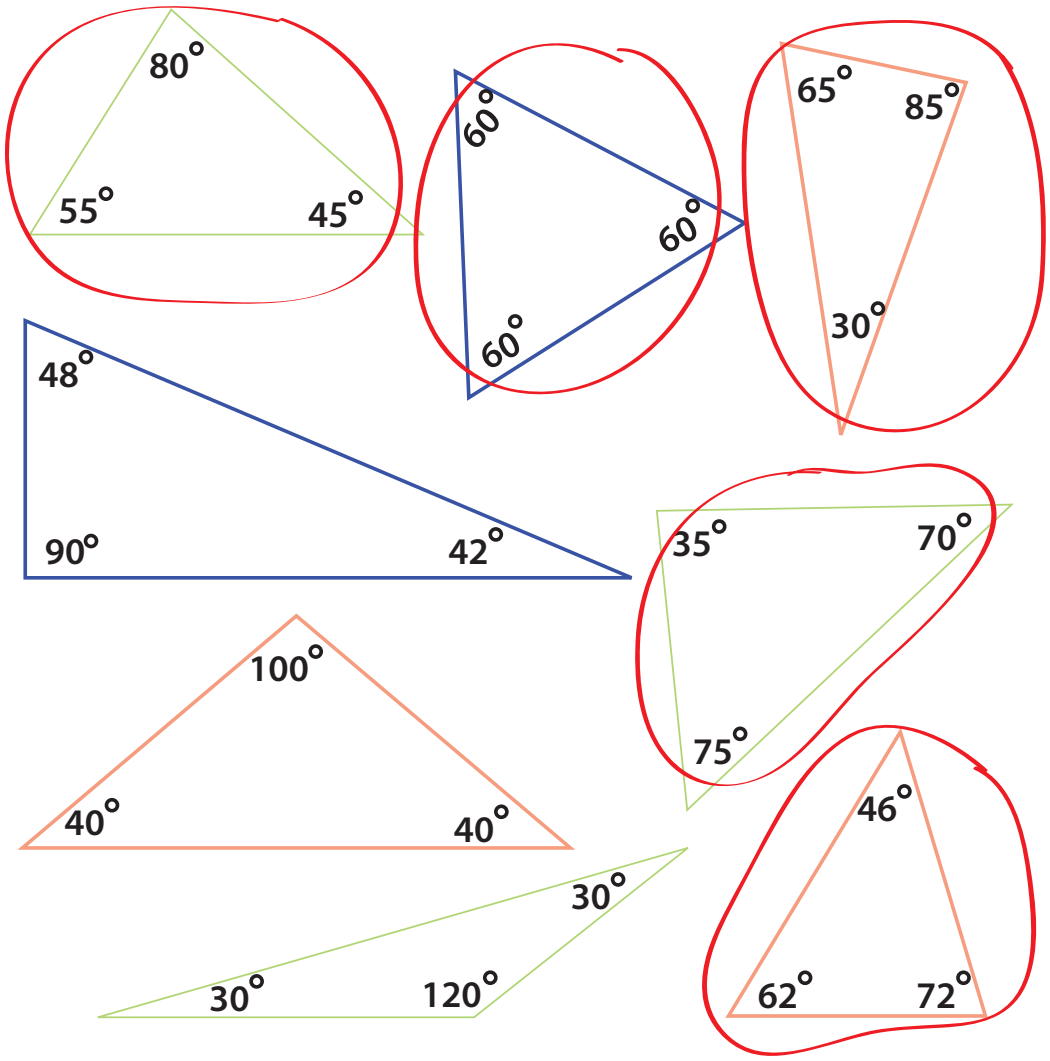
= 55 sq.ft.

Answer Sheet

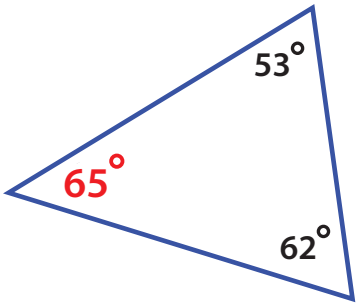
Math
Geometry

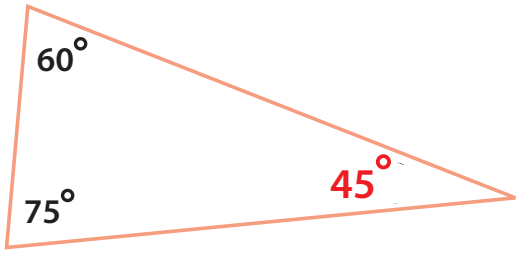
Answer Sheet
Identifying Triangles: Acute Triangles

An acute triangle is a triangle that has three acute angles (angles that each measure less than 90 degrees). Circle the acute triangles below.



Find the value of the missing angles in these acute triangles. Remember, the three angles in a triangle must add up to 180 degrees.



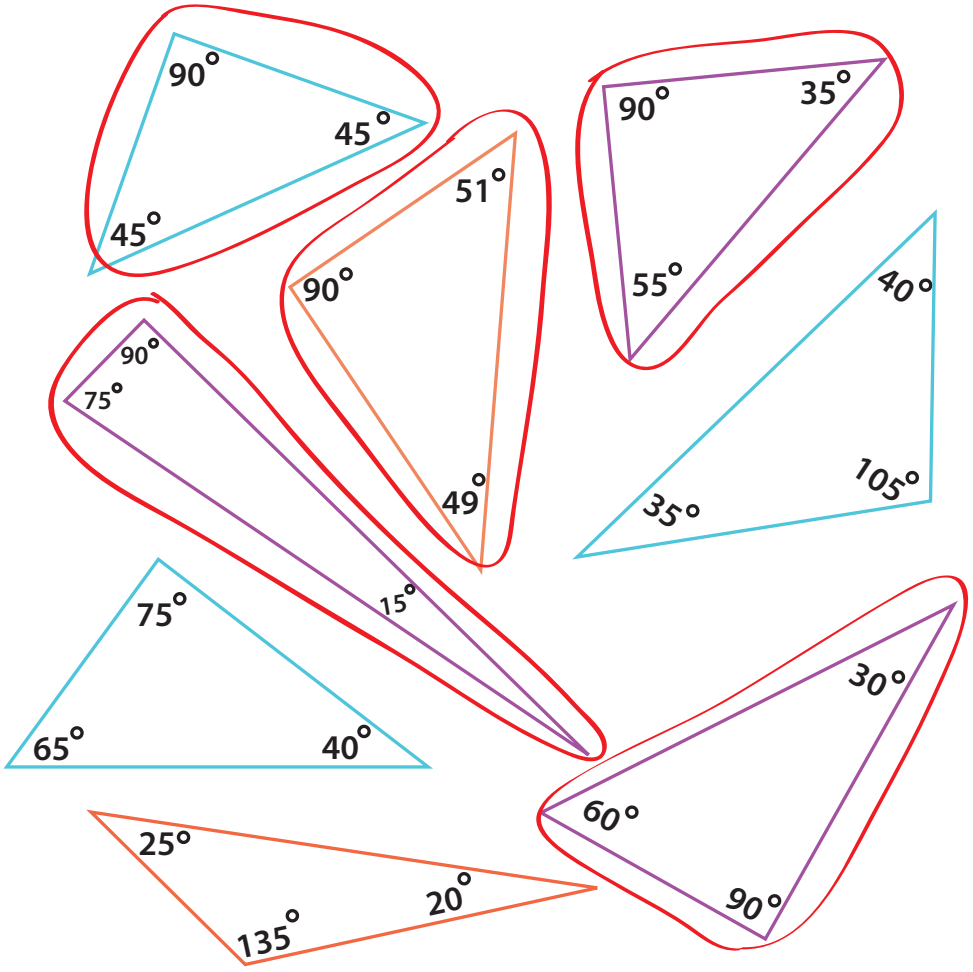


Answer Sheet

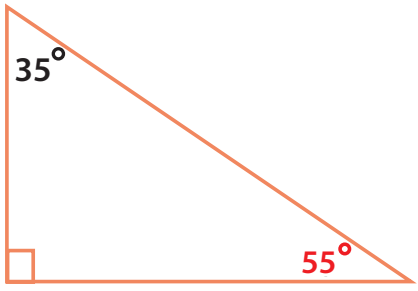
Math
Geometry

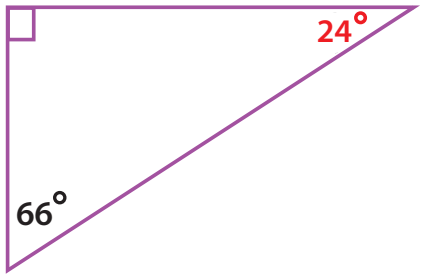
Answer Sheet
Identifying Triangles: Right Triangles

A right triangle is a triangle that has one right angle (90 degree angle).
Circle the triangles that is a right triangle.



Find the value of the missing angles in these right triangles. Remember, three angles in every triangle always add up to 180 degree.



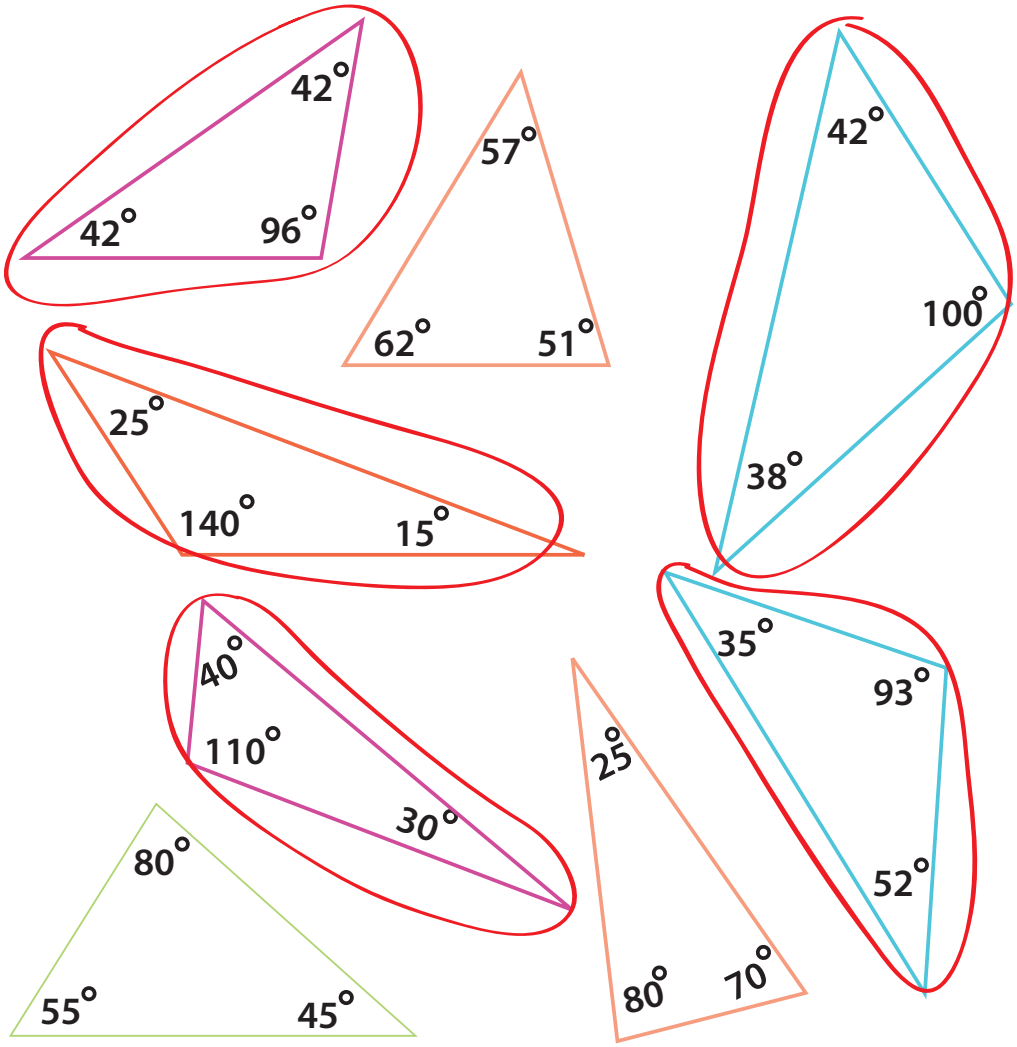


Answer Sheet

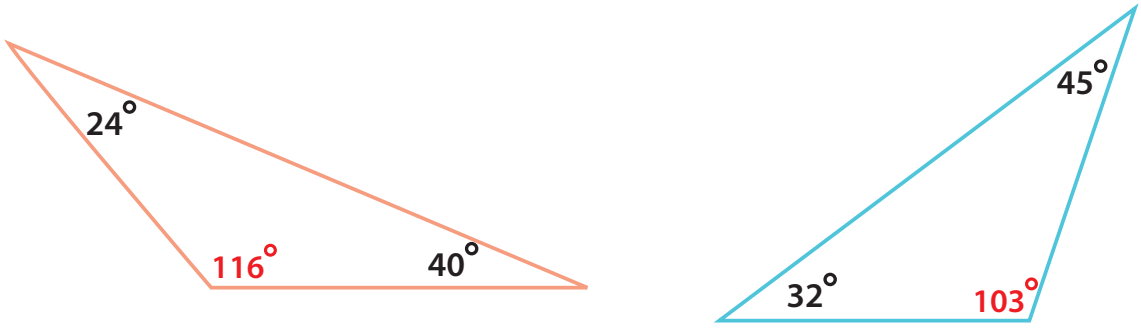
Math
Geometry

Answer Sheet
Identifying Triangles: Obtuse Triangles

An obtuse triangle is a triangle that has one obtuse angle (an angle that measures more than 90 degrees). Circle the obtuse triangles below.



Find the value of the missing angles in these obtuse triangles. Remember, the three angles in a triangle must add up to 180 degrees.



Answer Sheet

4th Grade

Geometry Detective: Triangle #3

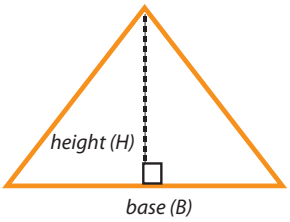
Answer Sheet

Find the area of each triangle using clues from the lengths provided. Show your work.

Review:

Triangle Area = $\frac{1}{2}$ x base x height

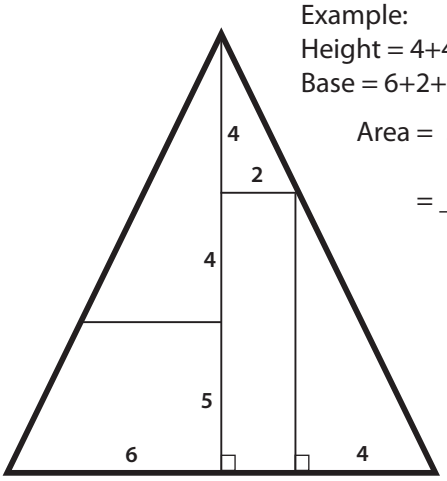
The base of a triangle can be any one of its sides.
The height is the distance from a base to its opposite point, or vertex.
A base must be perpendicular to its height.

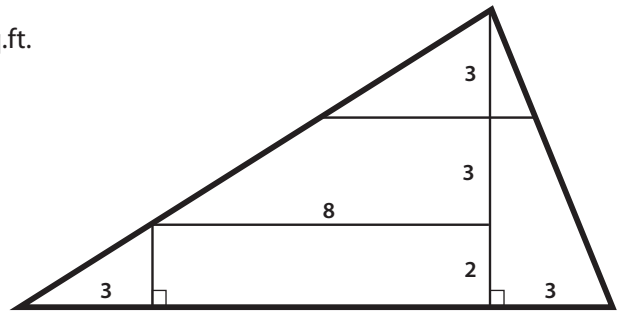


Example:
Height = 4+4+5 = 13
Base = 6+2+4 =12

Area = $\frac{1}{2}$ x 13 x 12

= **78** sq.ft.





Height = 2 + 3 + 3 = 8
Base = 3 + 8 + 3 = 14

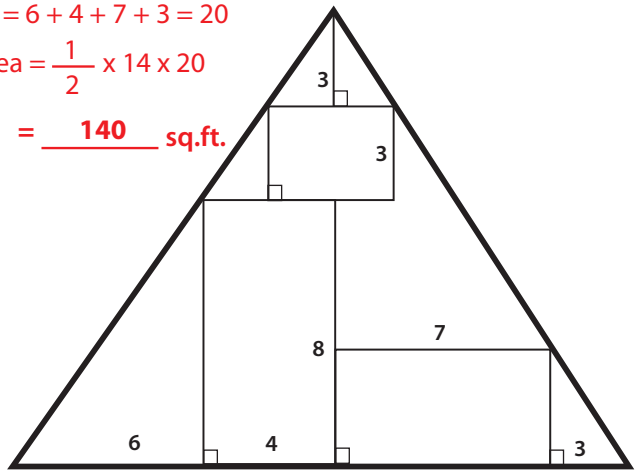
Area = $\frac{1}{2}$ x 8 x 14

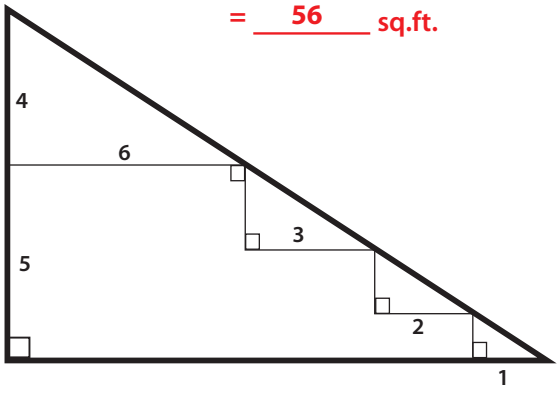
= **56** sq.ft.

Height = 8 + 3 + 3 = 14
Base = 6 + 4 + 7 + 3 = 20

Area = $\frac{1}{2}$ x 14 x 20

= **140** sq.ft.





Height = 4 + 5 = 9
Base = 6 + 3 + 2 + 1 = 12

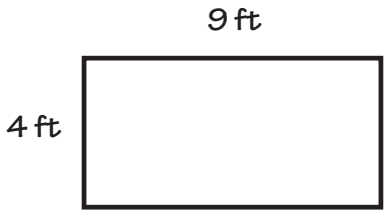
Area = $\frac{1}{2}$ x 9 x 12

= **54** sq.ft.

Answer Sheet

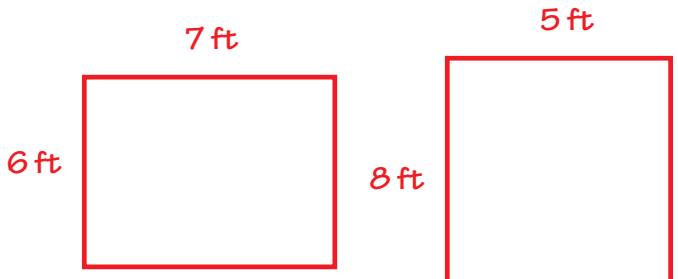
PERIMETER MATCH

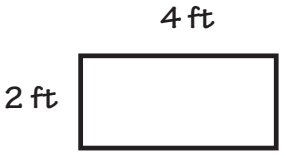
Find the ***perimeter*** of each rectangle, then draw at least 2 rectangles that have the same perimeter.



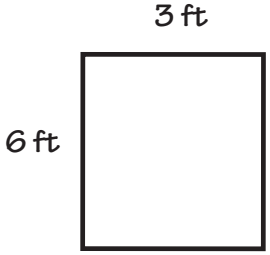
4 ft + 4 ft + 9 ft + 9 ft=

26 ft

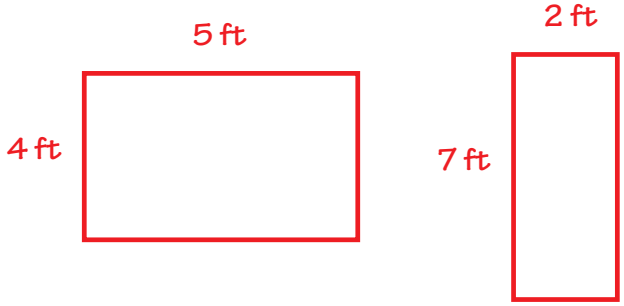




12 ft



18 ft



Answer Sheet

4th Grade

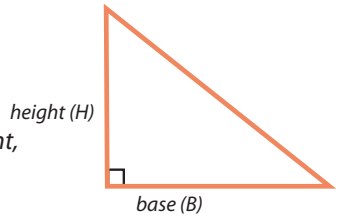
Answer Sheet
Right Triangle: Practice Finding Area

Use the clues provided to find the area of each triangle. Show your work.

Review:

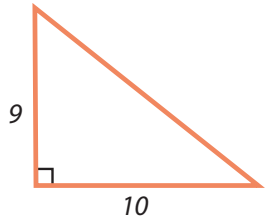
Triangle Area = $\frac{1}{2}$ x base x height

The base of a triangle can be any one of its sides.
The height is the distance from a base to its opposite point, or vertex.
A base must be perpendicular to its height.



A right triangle is a triangle that has one right angle (90 degree angle). So the height is the side of a triangle.

Example:

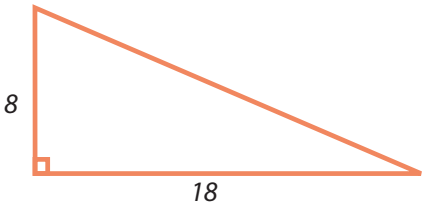


Base = 10 ft.
Height = 9 ft.

Area = $\frac{1}{2}$ x 10 x 9

= 45 sq.ft.

1

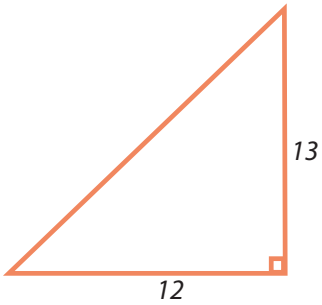


Base = 18 ft.
Height = 8 ft.

Area = $\frac{1}{2}$ x 18 x 8 = 72

= 72 sq.ft.

2

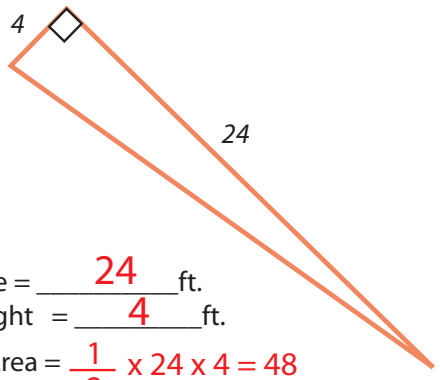


Base = 12 ft.
Height = 13 ft.

Area = $\frac{1}{2}$ x 12 x 13 = 78

= 78 sq.ft.

3

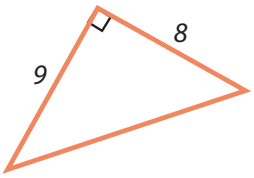


Base = 24 ft.
Height = 4 ft.

Area = $\frac{1}{2}$ x 24 x 4 = 48

= 48 sq.ft.

4



Base = 8 ft.
Height = 9 ft.

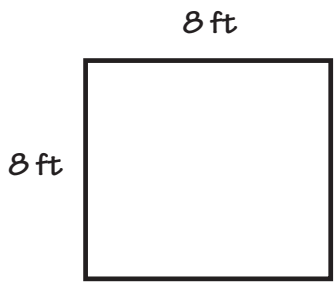
Area = $\frac{1}{2}$ x 8 x 9 = 36

= 36 sq.ft.

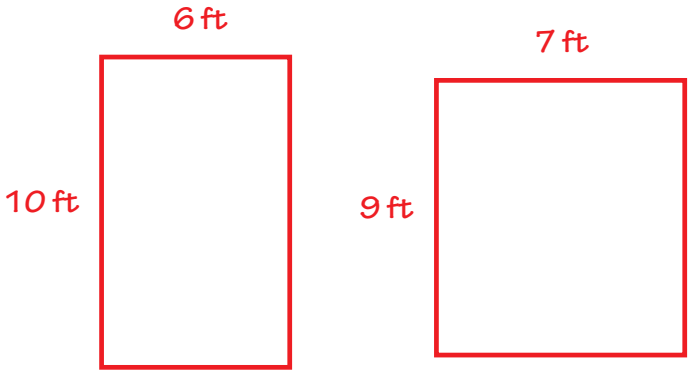
Answer Sheet

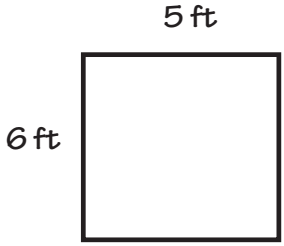
PERIMETER MATCH

Find the ***perimeter*** of each rectangle, then draw at least 2 rectangles that have the same perimeter.

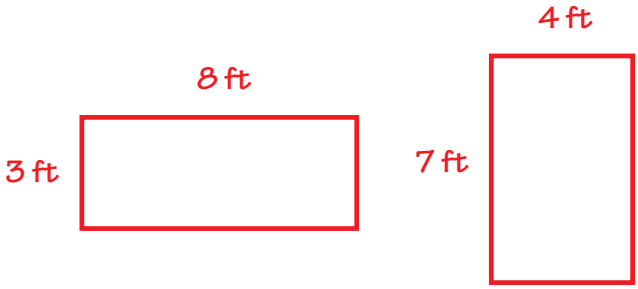


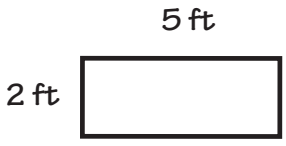
32 ft



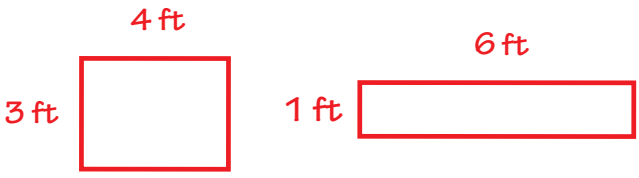


22 ft





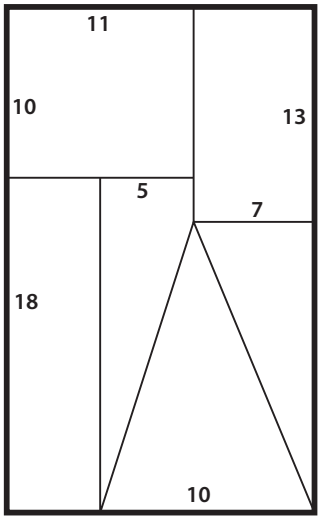
14 ft



Answer Sheet

Finding Area: Medium Answer sheet

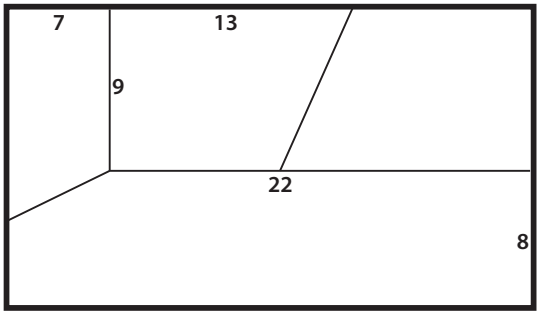
11 + 7 = 18



10 + 18 = 28

Area = 18 x 28 = 504 sq.ft.

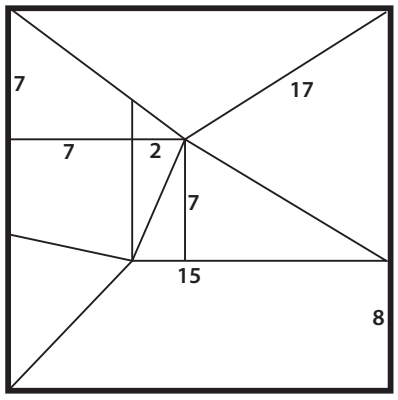
7 + 22 = 29



9 + 8 = 17

Area = 29 x 17 = 493 sq.ft.

7 + 15 = 22



7 + 7 + 8 = 22

Area = 22 x 22 = 484 sq.ft.

Answer Sheet

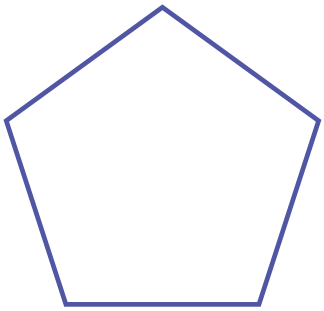
Answer Sheet

Various answers can apply.
Here are a few examples.

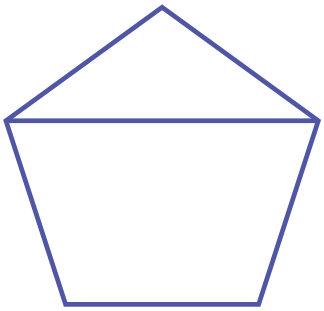
Pentagon: Calculating Area

A pentagon contains many shapes that you probably already know. Use a ruler to divide the pentagon into regular shapes that you are familiar with. Then, name the shapes you created. This will help you practice finding the area of irregular shapes.

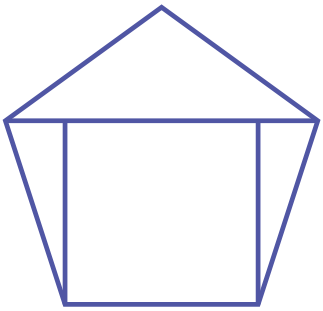
Example:



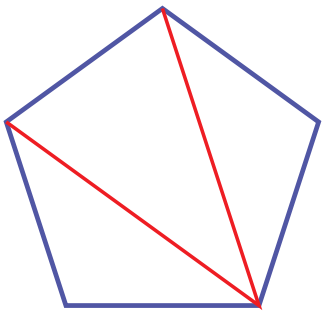
One pentagon



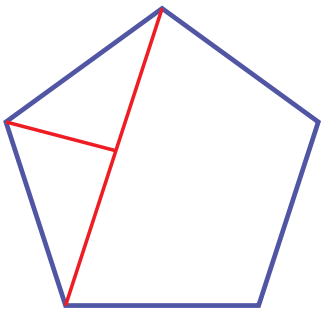
One triangle
One trapezoid



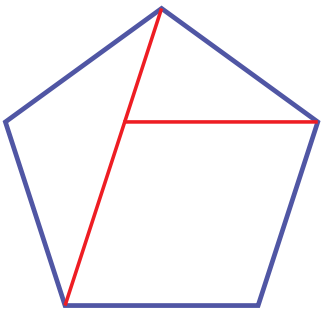
Three triangles
One rectangle



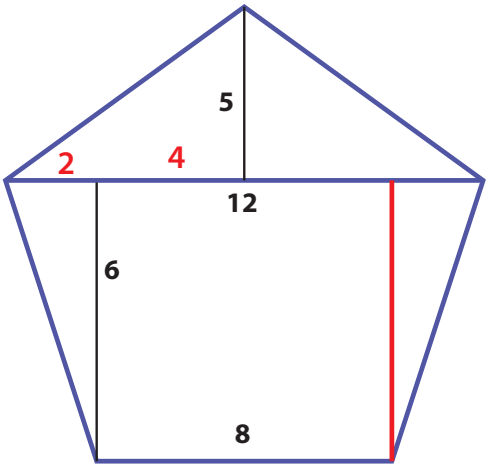
Three triangles
One pentagon



Two triangles
One trapezoid



One trapezoid
Two triangles



Challenge!

Calculate the area of this pentagon using the heights and lengths of the geometric shapes.

triangle area = $\frac{1}{2}$ base x height

$\frac{1}{2}$ 2 x 6 = 6

6 x 2 triangles = 12

$\frac{1}{2}$ 6 x 5 = 15

15 x 2 triangles = 30

rectangle area = length x width

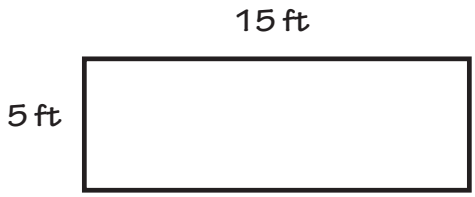
8 x 6 = 48
48 x 1 rectangle = 48

12 + 30 + 48 = 90

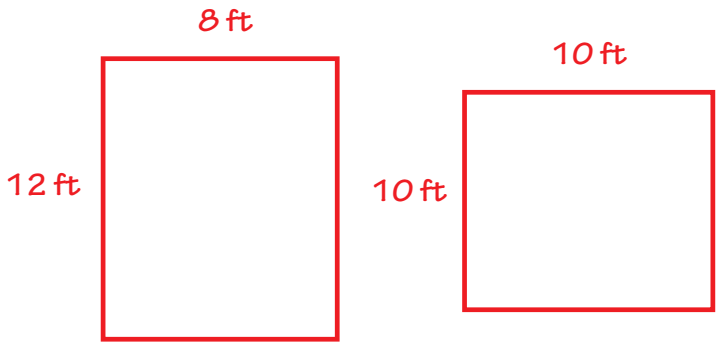
Answer Sheet

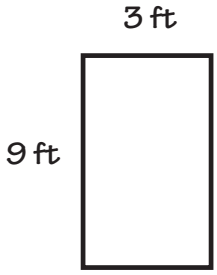
PERIMETER MATCH

Find the ***perimeter*** of each rectangle, then draw at least 2 rectangles that have the same perimeter.

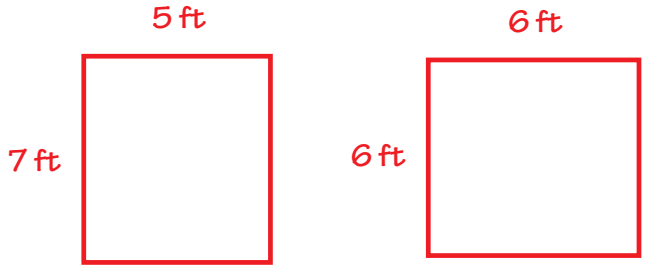


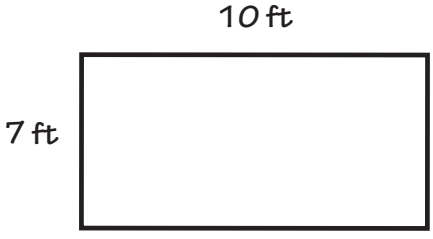
40 ft



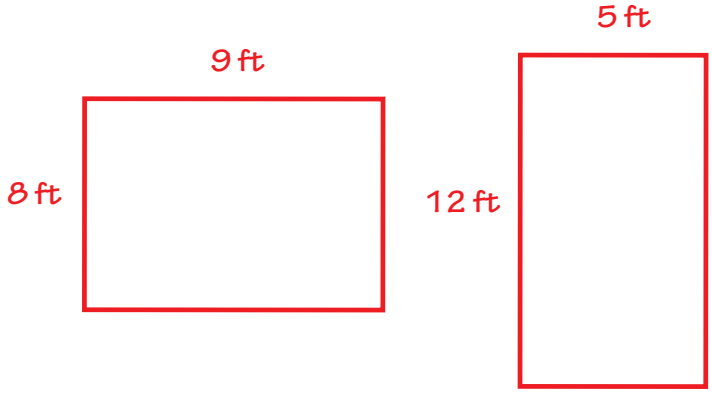


24 ft





34 ft



Answer Sheet

4th Grade

Find a New Home

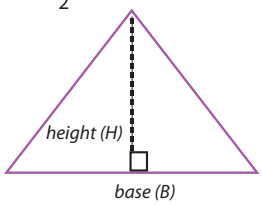
Answer Sheet

Help Mr. Rabbit find his new home. The total area of his place has to be at least ***60*** square feet. This includes the area of a roof (triangle) plus the area of the house (rectangle).

Review:

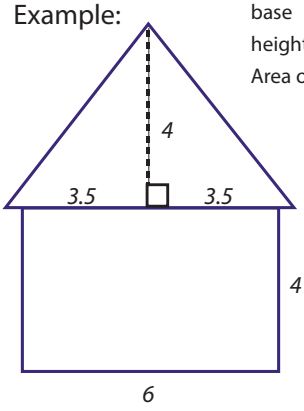
Rectangle Area = length x width

Triangle Area = $\frac{1}{2}$ x base x height



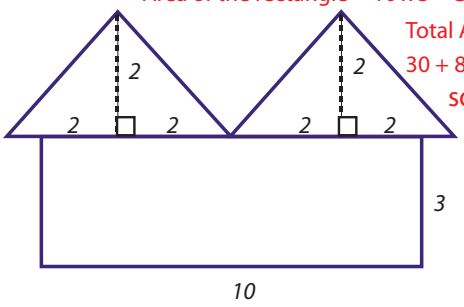
The base of a triangle can be any one of its sides.
The height is the distance from a base to its opposite point, or vertex.
A base must be perpendicular to its height.

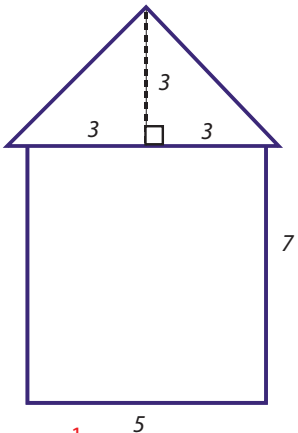
Example:



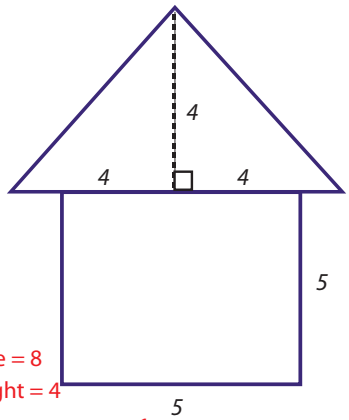
base = 3.5 + 3.5 = 7
height = 4
Area of the roof = $\frac{1}{2}$ x base x height
= $\frac{1}{2}$ x 7 x 4 = 14
Area of the rectangle = 6 x 4 = 24
Total area = 14 + 24 = 38 square feet.

base = 4
height = 2
Area of the roof = $\frac{1}{2}$ x 4 x 2 = 4 4 x 2 = 8
Area of the rectangle = 10 x 3 = 30
Total Area = 30 + 8 = 38 square feet

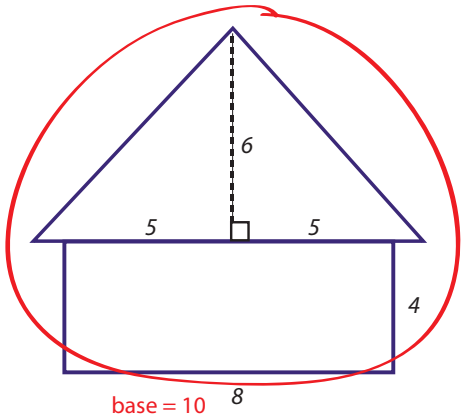




base = 6
height = 3
Area of the roof = $\frac{1}{2}$ x 6 x 3 = 9
Area of the rectangle = 7 x 5 = 35
Total Area = 9 + 35 = 44 square feet



base = 8
height = 4
Area of the roof = $\frac{1}{2}$ x 8 x 4 = 16
Area of the rectangle = 5 x 5 = 25
Total Area = 16 + 25 = 41 square feet



base = 10
height = 6
Area of the roof = $\frac{1}{2}$ x 10 x 6 = 30
Area of the rectangle = 4 x 8 = 32
Total Area = 30 + 32 = 62 square feet

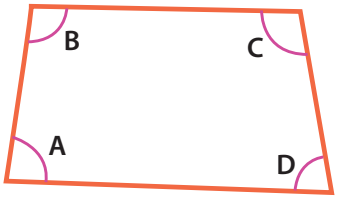
Which home should Mr. Rabbit move into? Circle it.

Answer Sheet

Math
Geometry

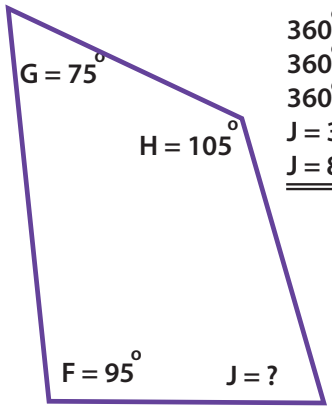
Answer Sheet
The Missing Angle: Quadrilaterals

In every quadrilateral, all four angles add up to 360°.

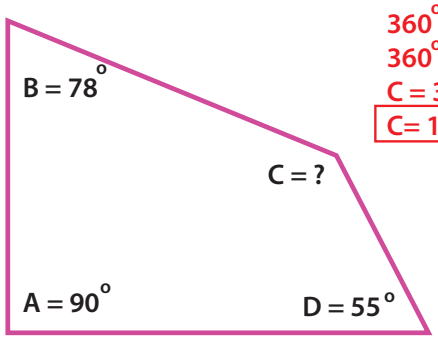


$360 = A + B + C + D$

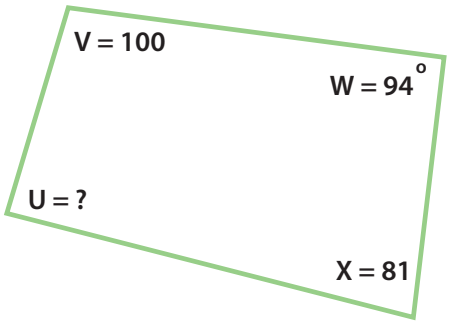
Use this rule to find the missing angle in the quadrilaterals. See the example.



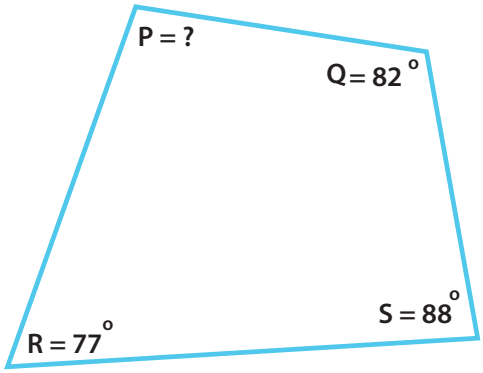
$360° = F + G + H + J$
$360° = 95° + 75° + 105° + J$
$360° = 275° + J$
$J = 360° - 275°$
$J = 85°$



$360° = A + B + C + D$
$360° = 90° + 78° + C + 55°$
$360° = 223° + C$
$C = 360° - 223°$
$C = 137°$



$360° = U + V + W + X$
$360° = U + 100° + 94° + 81°$
$360° = 275° + U$
$U = 360° - 275°$
$U = 85°$



$360° = P + Q + R + S$
$360° = P + 82° + 77° + 88°$
$360° = 247° + P$
$P = 360° - 247°$
$P = 113°$

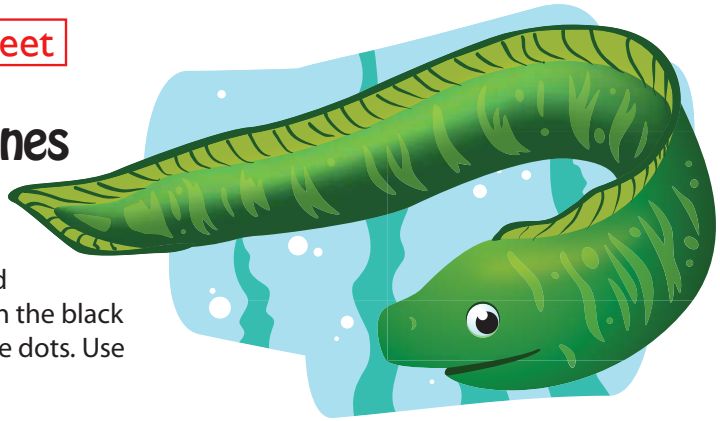
Answer Sheet

MATH
GEOMETRY

Answer Sheet

Parallel and Perpendicular lines

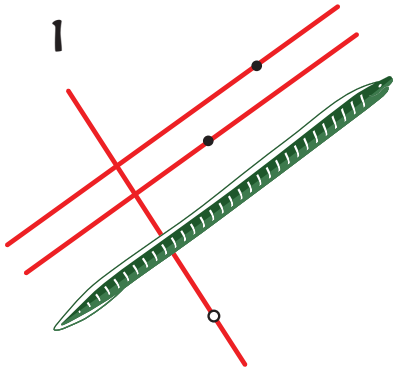
Elouisa the Eel



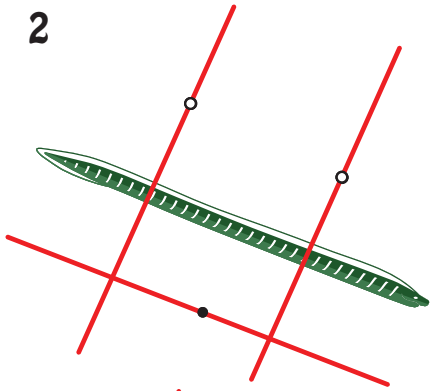
Elouisa the Eel needs help learning parallel and perpendicular lines. Draw parallel lines through the black dots and perpendicular lines through the white dots. Use a ruler to help you draw straight lines.

● Parallel ○ Perpendicular

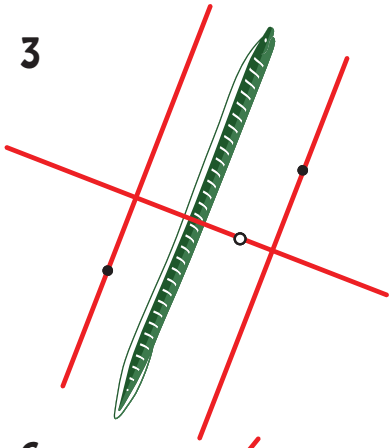
1



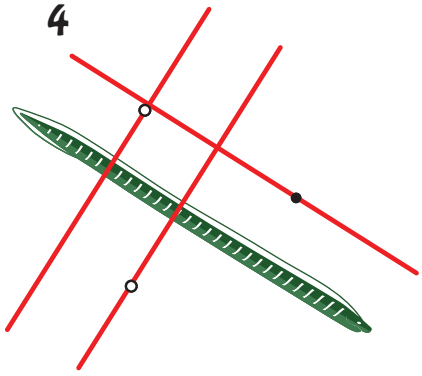
2



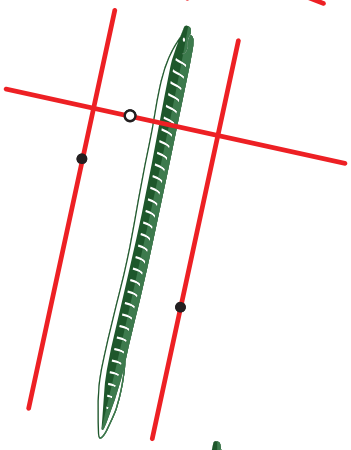
3



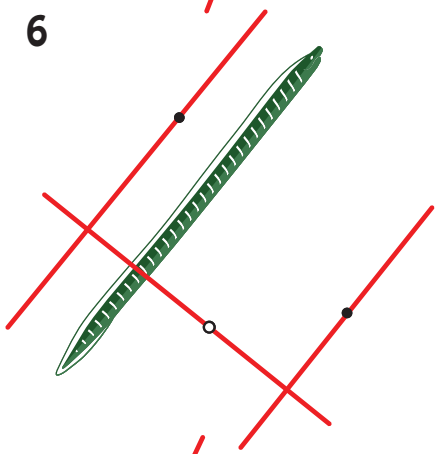
4



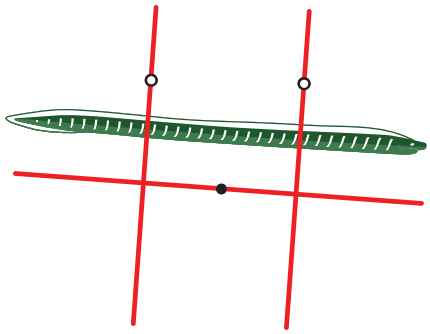
5



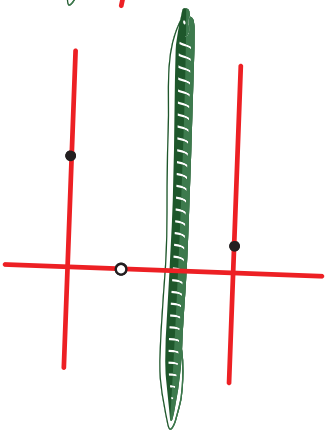
6



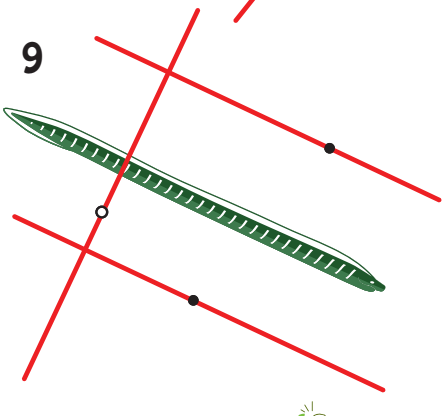
7



8



9



Answer Sheet

Answer Sheet

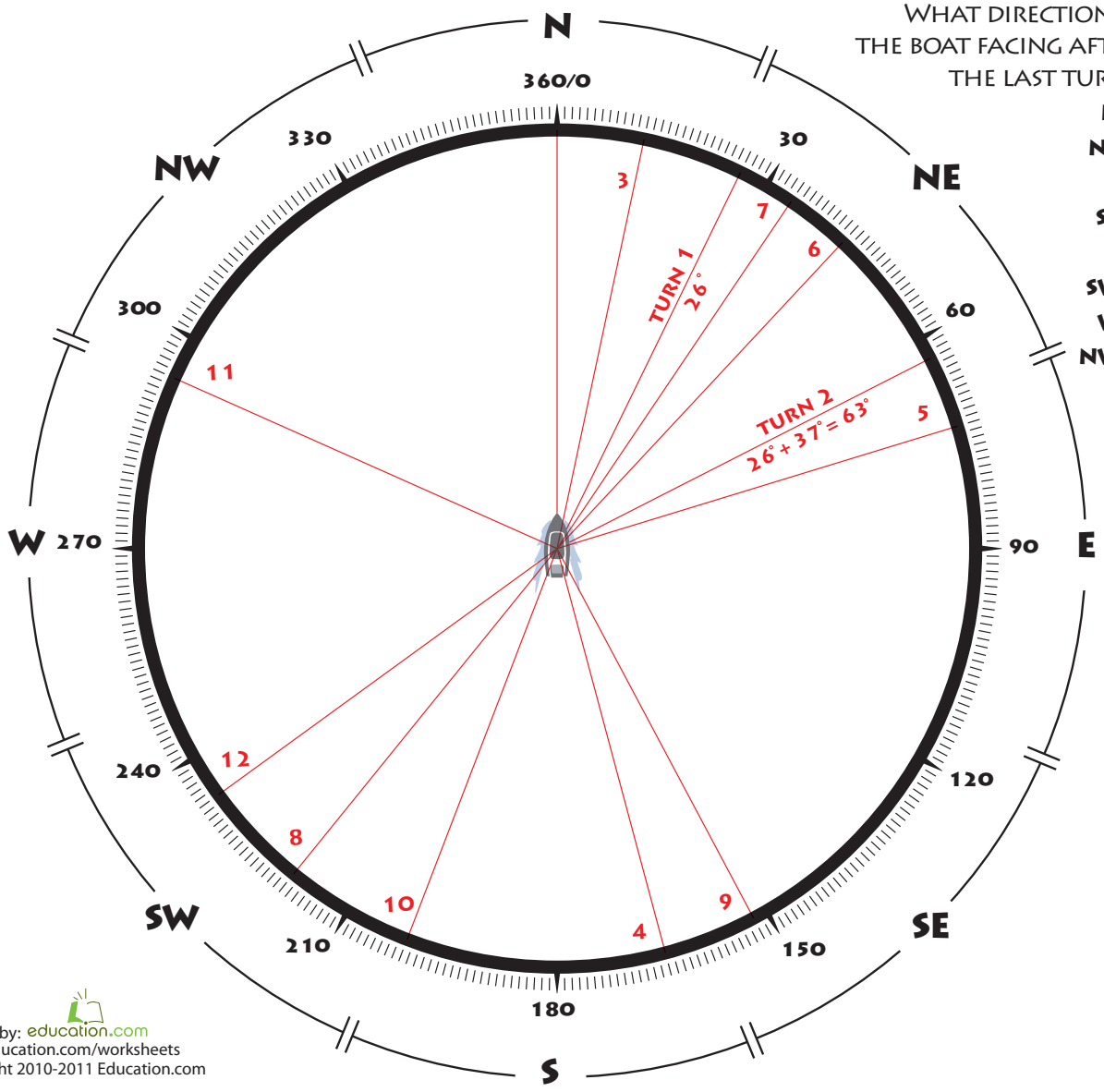
MATH
GEOMETRY

ANGLE STEERING 1

Steering a ship requires practice and precision. It also requires you to think about math and angles.

Turn the ship's wheel according to the angle measurements given. See the examples below. With each new turn, indicate the ship's new direction by drawing a line towards it. Turn clockwise if the angle is positive, counterclockwise if it is negative. Use a ruler to help you draw straight lines.

	1	2	3	4	5	6	7	8	9	10	11	12
Turn Degrees	+26°	+37°	−51°	+153°	−92°	−30°	−9°	+185°	−67°	+49°	+93°	−60°
New Direction	26°	63°	12°	165°	73°	43°	34°	219°	152°	201°	294°	234°



WHAT DIRECTION IS THE BOAT FACING AFTER THE LAST TURN?

- N ☐
- NE ☐
- E ☐
- SE ☐
- S ☐
- SW ☒
- W ☐
- NW ☐