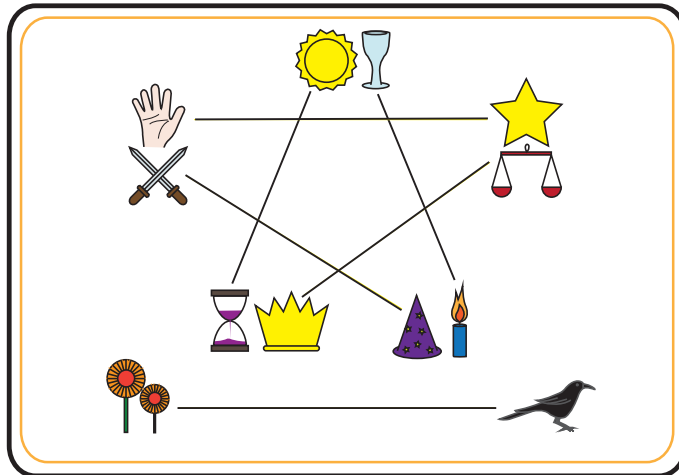# Answer Sheet

Mystical Multiplication

There are 6 pairs of matching Tarot Cards. Solve the equations and then draw a line connecting the symbols with matching answers in the key.

321 x 15 1605 +3210 4815	632 x 24 2528 +12640 15168	290 x 114 1160 + 2900 +29000 33060	107 x 45 535 + 4280 4815
187 x 33 561 + 5610 6171	763 x 13 2289 + 7630 9919	158 x 96 1948 + 14220 15168	109 x 91 109 + 9810 9919
549 x 41 549 + 21960 22509	561 x 11 561 + 5610 6171	580 x 57 4060 + 29000 33060	183 x 123 549 + 3660 +18300 22509

Conjuring up Expressions

In math, an expression is a sentence containing numbers and operations.
A variable is a letter that represents an unknown number in an expression.

Examples of expressions:

$4x$ $8+7$ $10y+3(y-2)$

$16-5$ $\dfrac{62}{h}$ $a-37$

*When a variable is next to a number, it means multiply. So 3x means 3 multiplied by x.

Read the sentences below and write an expression.

There are 17 bats flying through the haunted house. There are **x** times more bats in the caves behind the house. Write the multiplication expression for the number of bats in the caves.

The number of bats in the house is 17
Times **x**
The multiplication expression is $17x$
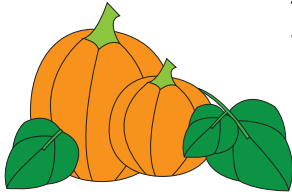
There are 64 pumpkins in the patch. They are divided into **y** equal groups. Write the division expression for the number of pumpkins in each group.

$\dfrac{64}{y}$

A witch's broomstick is 4 feet long. Belinda made hers **m** times longer to be able to carry more witches with her. Write the multiplication expression for the length of Belinda's broomstick.

$4m$

Cara made 52 ounces of witches brew in her largest cauldron. She divided it equally into **p** number of cups. Write the division expression for the number of ounces in each cup.

$\dfrac{52}{p}$
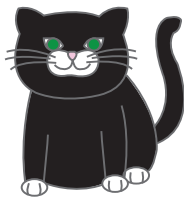
Tabitha has **z** black cats. Mark has 3 times as many. Write the mulitplication expression for the number of cats Mark has.

$3z$

Magical Measurements

Wendy found her grandmother's recipe for witches brew and wants to make it for her class and for her magic spells club. Her recipe makes one cauldron, which is enough for 60 witches. However, she needs to make a smaller brew to feed 30 witches and another to feed 15 witches. Can you help Wendy halve and quarter the recipe for witches brew by multiplying the ingredient measurements by 1/2 and 1/4?

Witches Brew

8/3 cup swamp water
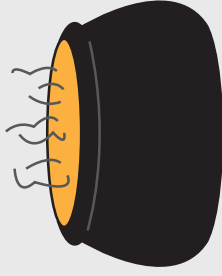
4 toad warts

1 tsp fly's wings

1/2 tsp spider's legs

1 eye of newt

1/4 cup werewolf hair

1/4 recipe

Witches Brew

2/3 cup swamp water

1 toad warts

1/4 tsp fly's wings

1/8 tsp spider's legs

1/4 eye of newt

1/16 cup werewolf hair
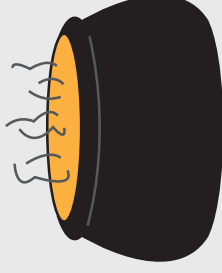
1/2 recipe

Witches Brew

4/3 cup swamp water

2 toad warts

1/2 tsp fly's wings

1/4 tsp spider's legs

1/2 eye of newt

1/8 cup werewolf hair
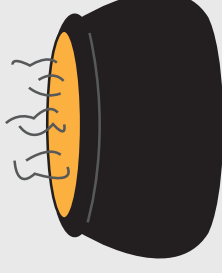
Wicked Ratios

A ratio compares two or more numbers.
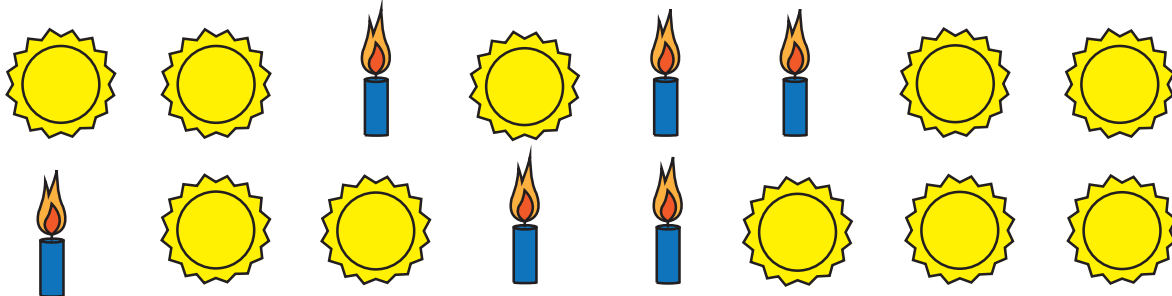
In the example above, there are six candles and ten suns. The ratio of candles to suns is 6 to 10 or **6:10**. The ratio of suns to candles is 10 to 6 or **10:6**.

The ratio can be simplified by dividing both numbers by the biggest common number. The number candles and suns can both be divided by 2, so the ratio of candles to suns is **3:6** and the ratio of suns to candles is **5:3**.

1. What is the ratio of jack o' lanterns to pumpkins? 4 : 5

2. What is the ratio of crows to bats? 3 : 6

3. What is the simplified ratio of crows to bats? 1 : 2

4. What is the ratio of spiders to webs? 8 : 10

5. What is the simplified ratio of spiders to webs? 4 : 5

6. What is the simplified ratio of webs to spiders? 5 : 4

DUNGEON REMODEL

Count Calloway is remodeling his dungeon before his family comes to visit for Halloween. He wants it to be complete with a hay bed, a concrete bench, s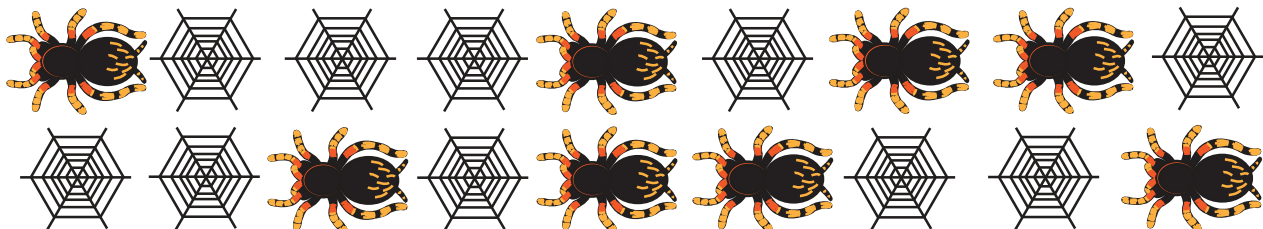tone floor, wood bridge and a moat! Use the area formula to calculate how much the count will spend on his remodel and fill in the table below. (Remember, area = length x width.)

16 ft.

12 ft.

4 ft.

3 ft.

3 ft.

11 ft.

6 ft.

7 ft.

2.5 ft.

3 ft.
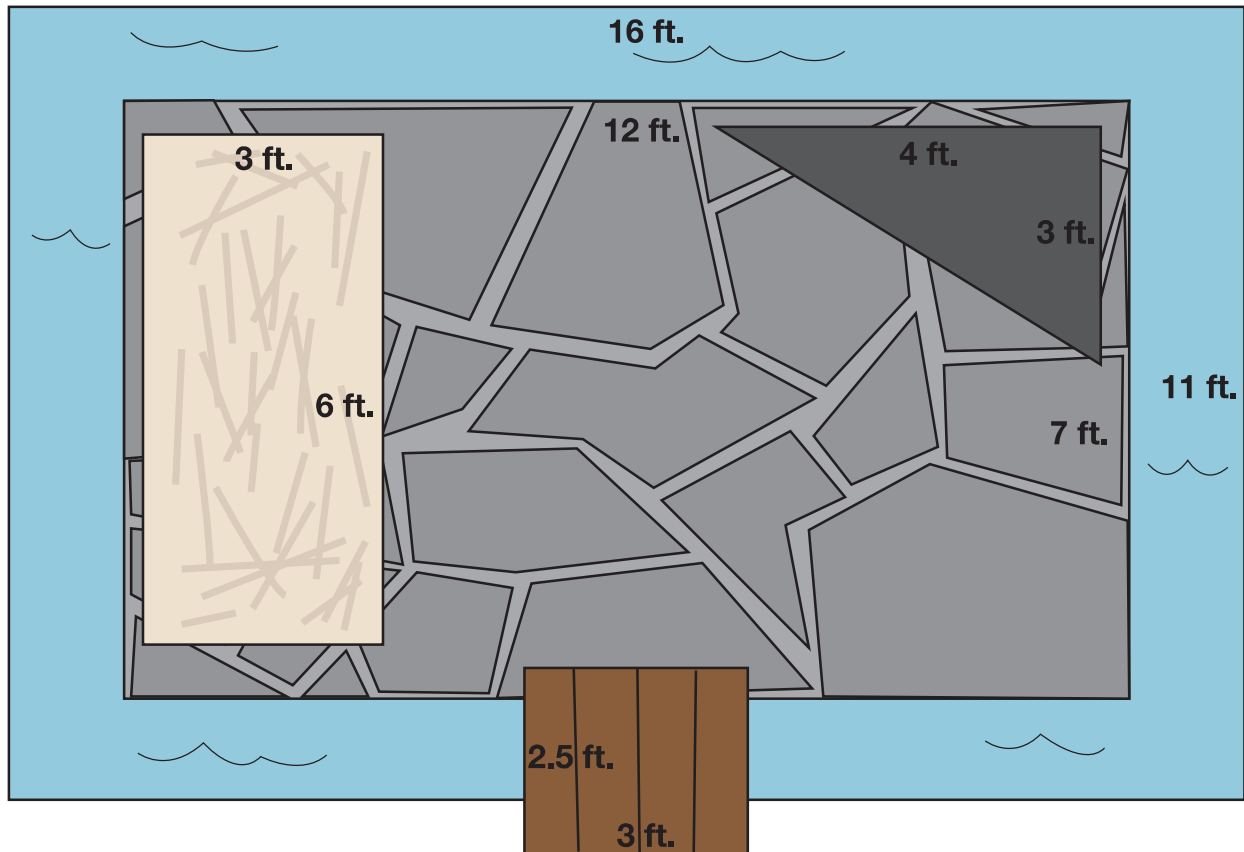
Material		Price/Sq.Ft.	Area	Price
	hay	$3	18 sq. ft.	$54
	concrete	$7	6 sq. ft.	$42
	stone flooring	$12	84 sq. ft.	$1008
	wood planks	$6	$7 \frac{1}{2}$ sq. ft.	$45
	moat	$9	92 sq. ft.	$828
			Total =	$1977

Welcome to Mummy's Market!

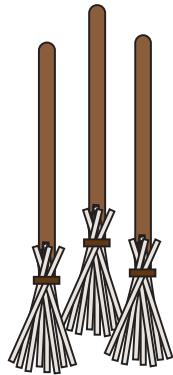Calculate the cost of each item in a package. Don't forget to show your work!
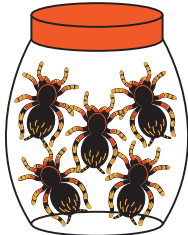
A jar of spiders costs $15. There are 5 spiders in a jar. How much does each spider cost?

$$5\overline{)15}$$ quotient 3

15
0

Each spider costs $3.

A bushel of brooms costs $81. Each bushel contains 3 magic witches brooms. How much does each broom cost?

$$3\overline{)81}$$ quotient 27

6
21
21
0

Each broom costs $27.

A crate of crystal goblets costs $72. There are 6 goblets in a crate. How much does each goblet cost?

$$6\overline{)72}$$ quotient 12

6
12
12
0

Each goblet costs $12.

Thelma is excited to see that Mummy's has candles in stock. There is a pack of 12 candles for $24 and a pack of 20 candles for $30. Which pack is a better is a better deal?

$$12\overline{)24}$$ quotient 2

24
0

$$20\overline{)30.0}$$ quotient 1.5

20
100
100
0

The pack of 20 candles for $30 is the better deal with each candle costing $1.50.

On the Grid: All Hallow's Eve
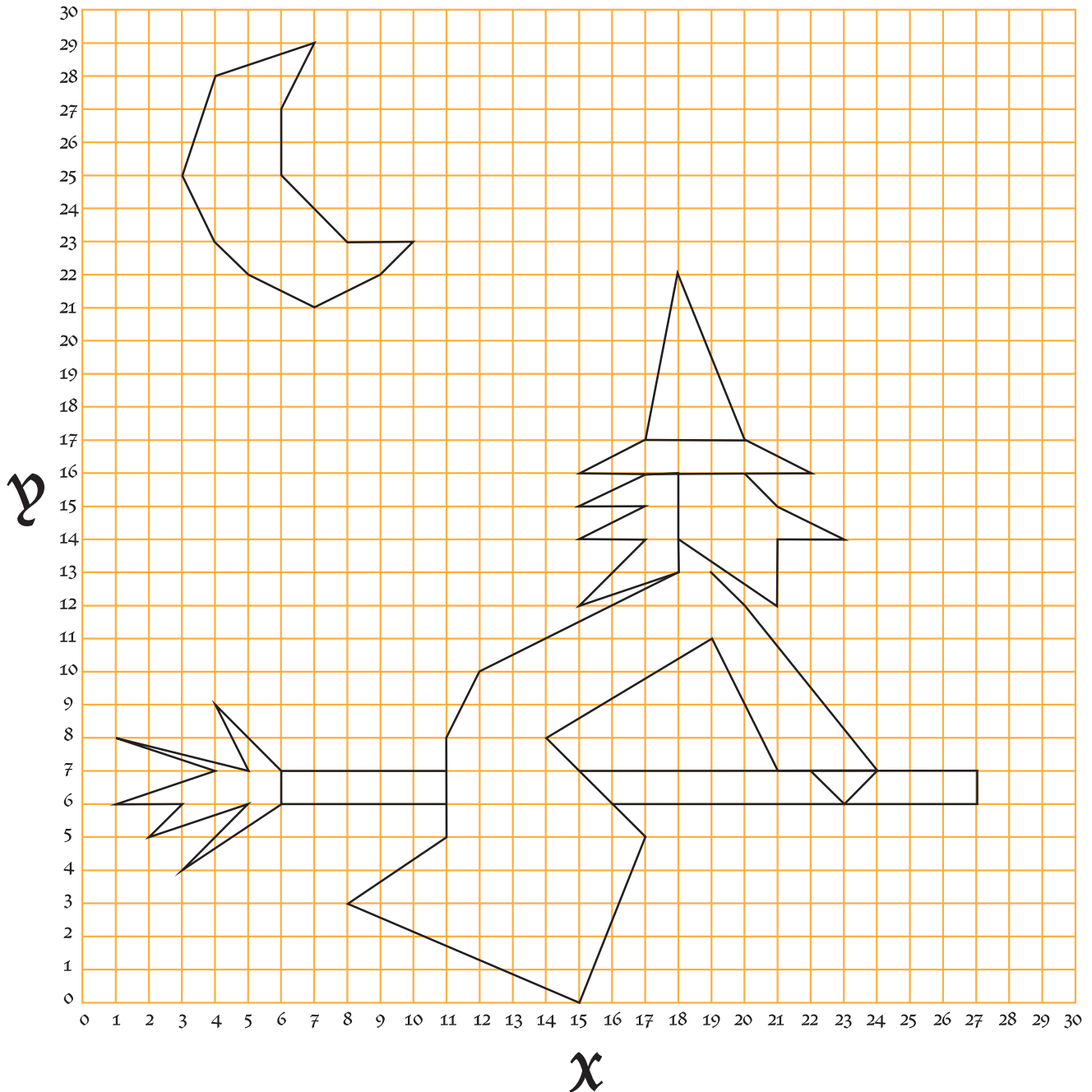
What is happening in this Halloween scene?

_____

_____

# Weaving A Perfect Web

Sarah the spider has just finished her web and it's exactly how she likes it. She wants to have a drawing of her web so she can weave this web over and over again. Help Sarah find the missing angles in her web drawing. Remember, all the interior angles of a triangle add up to 180 degrees.

46° 60°
58°
68°
76° 48° 72°
52° 70°
60° 52°
48°
66° 80°
58°
66° 53°
66°
47°
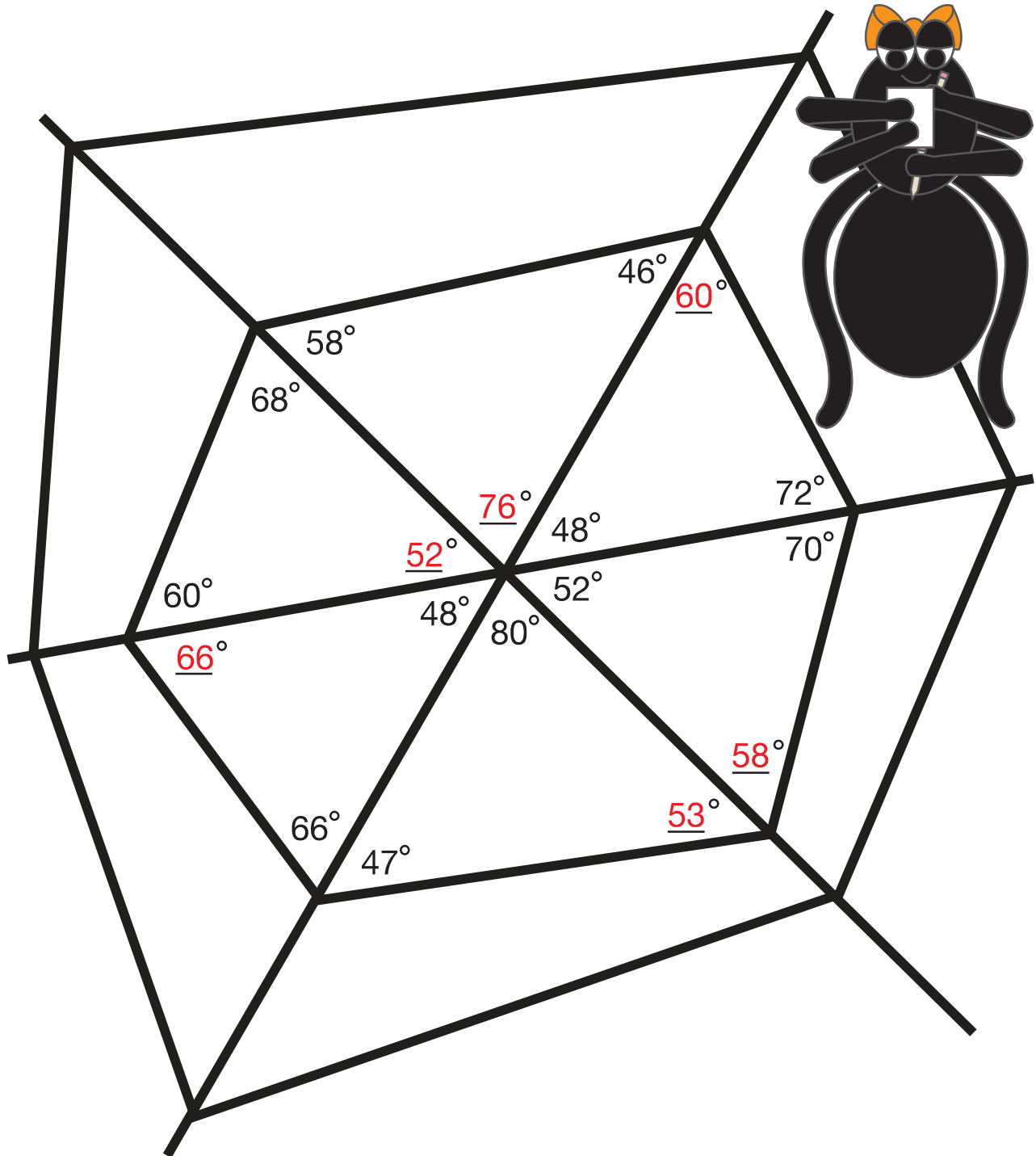
Trick-or-Treat!

After a night of trick-or-treating, Roger has a basket full of candy!
Let's find the probability of Roger picking each candy from his basket.
Write your answer as a fraction, and reduce it if you can!
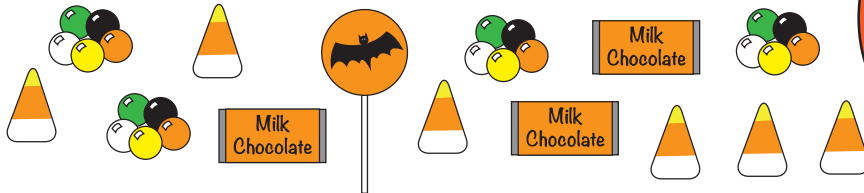
Example:

What is the probability of Roger picking gumballs from his basket? $\dfrac{4}{14} = \dfrac{2}{7}$

1. What is the probability of picking a chocolate bar? $\dfrac{3}{14}$

2. What is the probablility of picking a candy corn? $\dfrac{6}{14} = \dfrac{3}{7}$

3. What is the probability of picking a lollipop? $\dfrac{1}{14}$

4. What candy is most likely to be picked? **Candy Corn**

5. What candy is least likely to be picked? **Lollipop**

6. What is the probability of picking a candy that is not a candy corn? $\dfrac{8}{14} = \dfrac{4}{7}$

7. What is the probability of picking a candy that is not a lollipop? $\dfrac{13}{14}$

8. What is the probability of picking a gumball or chocolate bar? $\dfrac{7}{14} = \dfrac{1}{7}$
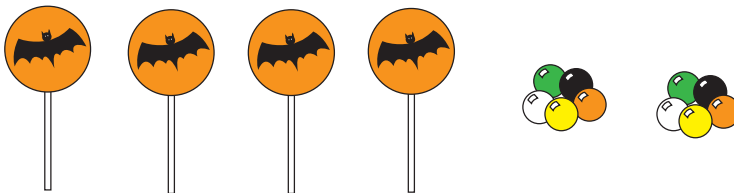
⭐ Roger decides to go trick-or-treating down one more street. He adds 4 more lollipops and 2 more gumballs to his basket. Now what is the probability of picking a lollipop? $\dfrac{5}{20} = \dfrac{1}{4}$

Trekking Through Transylvania

Use this page to organize your equations and show your work.

Remember:

area = length x width

$$\text{length} = \frac{\text{area}}{\text{width}}$$

$$\text{width} = \frac{\text{area}}{\text{length}}$$

m = meters

m² = square meters

#1

length = 50m

width = 68m

area = 3400m²

perimeter:

50+68+50+68 =236m

```
      68
50 | 3400
     300
     400
     400
       0
```

#2

length = 115m

width = 68m

area = 7820m²

perimeter:

115+68+115+68 = 336m

```
       115
68 | 7820
     68
     102
      68
      340
      340
        0
```

#3

length = 33m

width = 45m

area = 1485m²

perimeter:

33+45+33+45 =166m

```
      33
45 | 1485
     135
     135
     135
       0
```

#4

length = 68m

width = 76m

area = 5168m²

perimeter:

68+76+68+76 =288m

```
      68
76 | 5168
     456
     608
     608
       0
```

#5

length = 37m

width = 15m

area = 555m²

perimeter:

37+15+37+15 =104m

```
      15
37 | 555
     37
     185
     185
       0
```

#6

length = 62m

width = 59m

area = 3658m²

perimeter:

62+59+62+59 =242m

```
      62
59 | 3658
     354
     118
     118
       0
```

#7

length = 67m

width = 63m

area = 4221m²

perimeter:

67+63+67+63 =260m

```
      67
63 | 4221
     378
     441
     441
       0
```

#8

length = 130m

width = 65m

area = 8,450m²

perimeter:

130+65+130+65 =390m

```
       65
130 | 8450
      780
      650
      650
        0
```

#9

length = 123m

width = 18m

area = 2214m²

perimeter:

123+18+123+18 =282m

```
       18
123 | 2214
      123
      984
      984
        0
```

Now add up all the perimeters to find the total length of the trek through Transylvania!

336+236+166+288+104+242+260+390+282

Total length = _____ 2304m