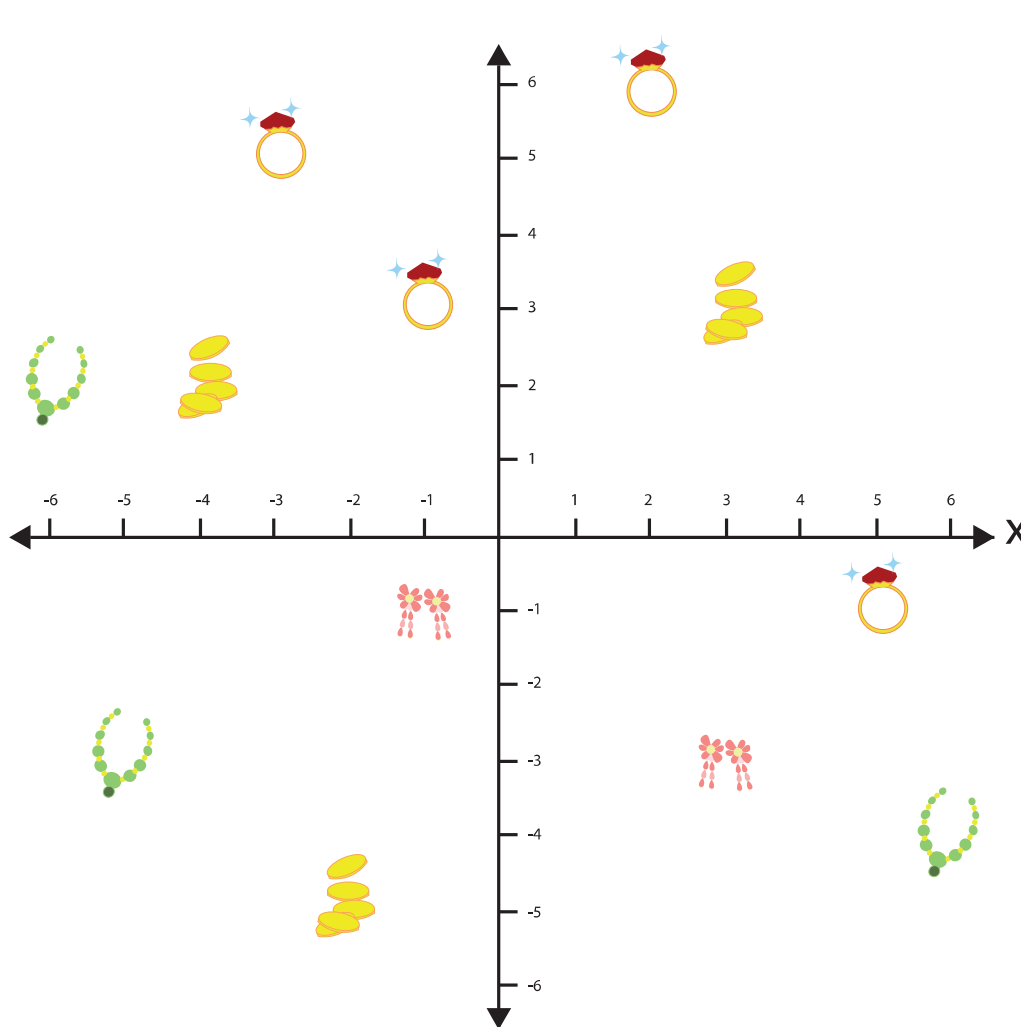



Answer Sheet

Math
Algebra

Coordinates Treasure Hunt!

Help the treasure hunter by looking at the coordinate plane below and answering the questions.



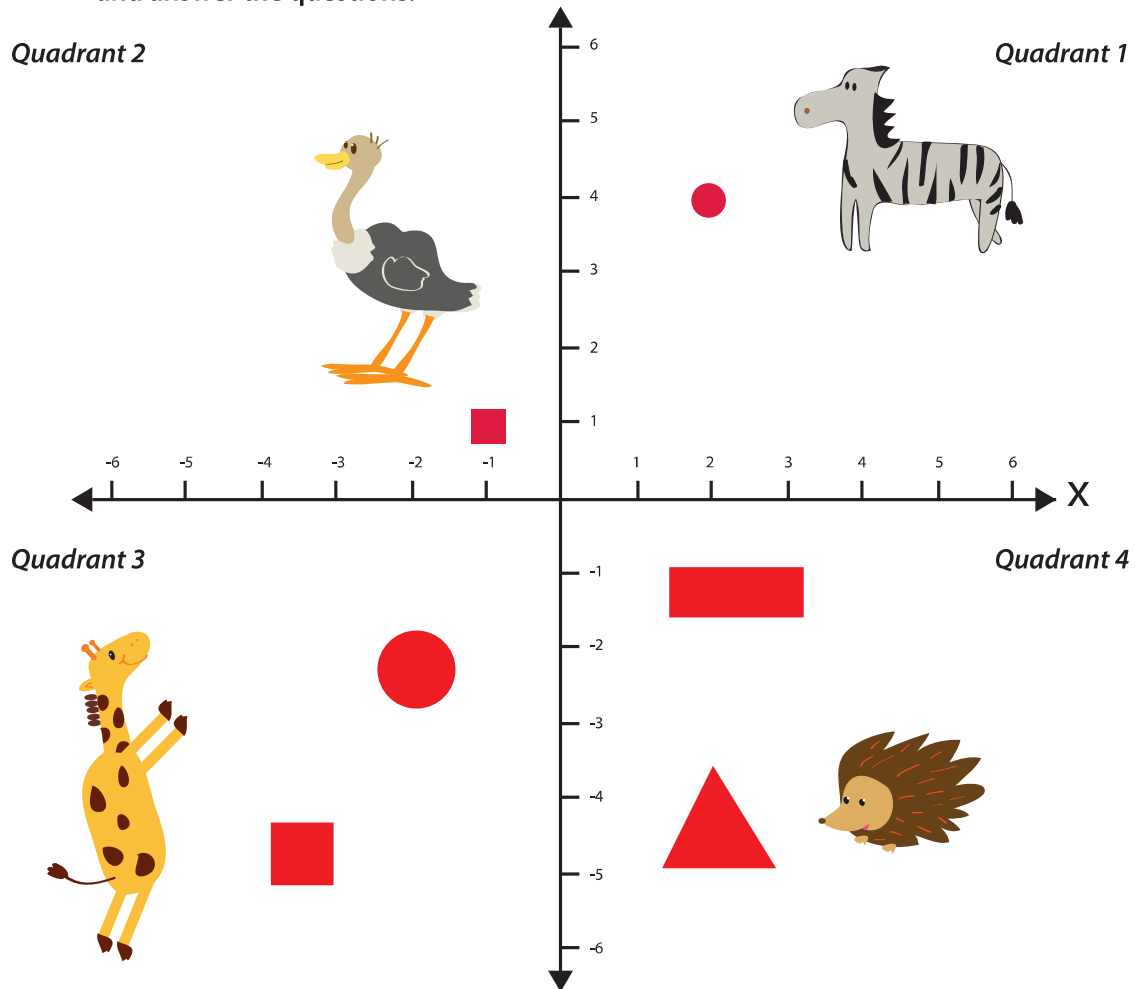
1. What treasure is located at (5, -1)? **RING**
2. What treasure is located at (-2, -5)? **COINS**
3. What treasure is located at (6, -4)? **NECKLACE**
4. Write the coordinates of the earrings below.  **(3, -3), (-1, -1)**
5. Which quadrant has the most treasure in it? **QUADRANT 2**

Answer Sheet

Math
Algebra

Name the Quadrant

The coordinate plane is divided into four quadrants. Look at the coordinate plane below and answer the questions.



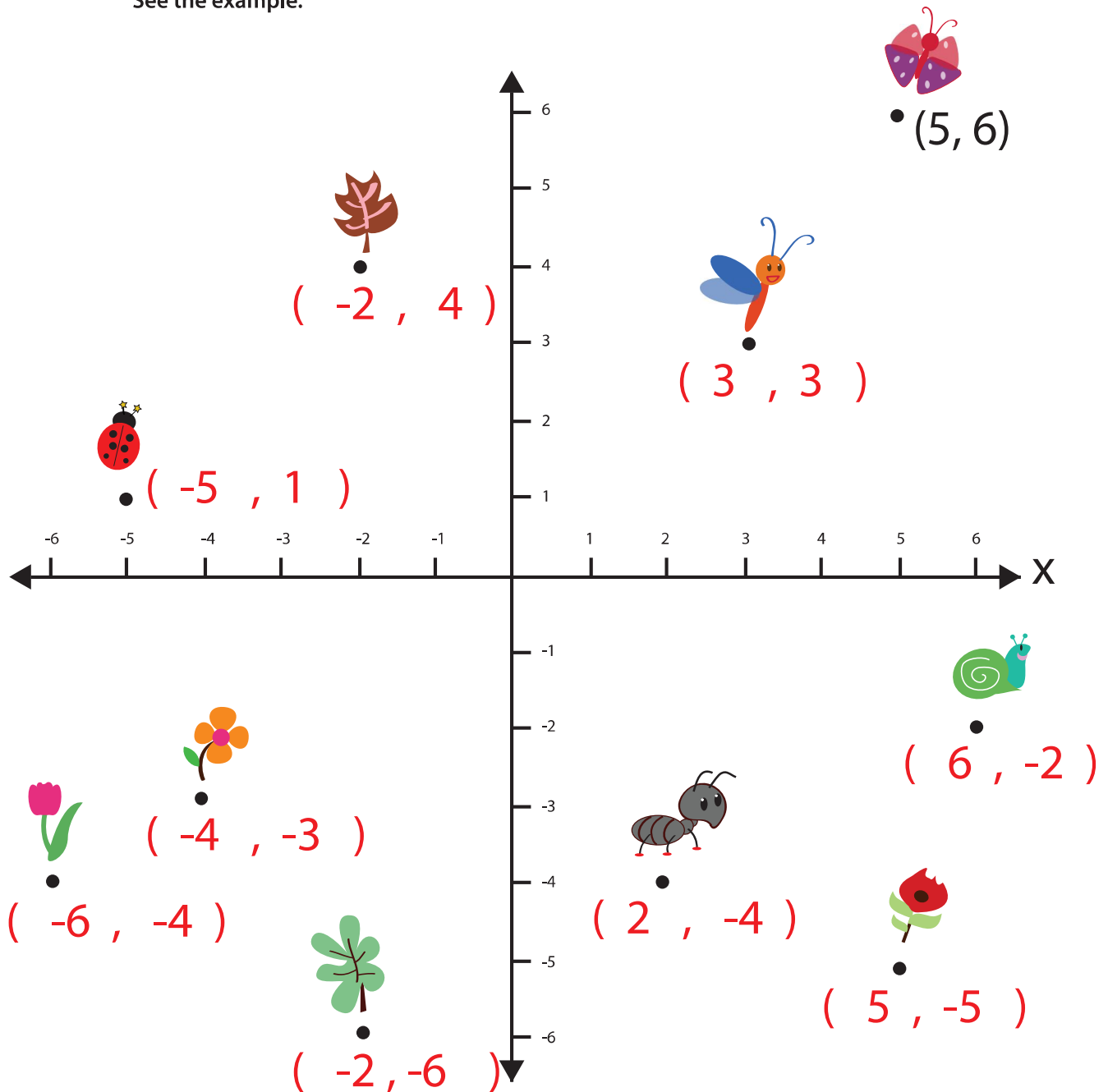
1. Which quadrant is the giraffe in? **QUADRANT 3**
2. Which quadrant is the zebra in? **QUADRANT 1**
3. Which quadrant is the ostrich in? **QUADRANT 2**
4. Draw a triangle and a rectangle in quadrant four.
5. Draw a circle and a square in quadrant three.
6. The coordinates of the square in quadrant 2 are (-1, 1).
What are the coordinates of the circle in quadrant one? **(2,4)**

Answer Sheet

Math
Algebra

Write the Coordinates

Look at the position of each object below, and write the coordinates in the parentheses.
See the example.



Which quadrant does not contain an insect?

QUADRANT 3

Answer Sheet

Math
Algebra

Expression vs. Equation

An expression in math is a sentence containing numbers and the operations. Below are examples of expressions:

$2 + 3$

$17 - 16 + 2$

$\frac{2}{5} \times \frac{6}{6}$

6

$(3 \times 5) - (6 \times 2)$

$y - 20$

An equation is the statement of numbers, expressions, operations that are equal.

Examples:

$2 + 3 = 4 + 1$

$17 - 16 + 2 = 3$

$\frac{2}{5} \times \frac{6}{6} = \frac{12}{30}$

$6 = 6$

$(3 \times 5) - (6 \times 2) = 15 - 12$

$y - 20 = 10 + x$

Look at the statements below. Write "ex" if the statement is an expression.
Write "eq" if the statement is an equation.

ex $7 + f$

ex $6x - 6y - 6z$

ex $12(7 - 3)$

eq $\frac{(40 - 5)}{7} = 5$

eq $(6 \times 4) = (3 \times 8)$

ex 8

ex $(5 \times 5 \times 5)$

eq $0.1 + 0.5 = 0.3 + 0.3$

eq $\frac{9}{2} \times \frac{4}{3} = 6$

ex $(2 \times 2) - (1 \times 1)$

Challenge

Complete the equation by writing the expression on the other side of equation. See the example.

$60 + 4 = \underline{8 \times 8}$

$25 - 15 = \underline{2 \times 5}$

$4 \times 2 = \underline{4 + 4}$

$\frac{12}{4} = \underline{1 + 2}$

Answer Sheet

Math
Algebra

Writing Expressions With Variables #1

An expression in math is a sentence containing numbers and the operations. Below are examples of expressions:

$$2 + 3$$

$$17 - 16 + 2$$

$$\frac{2}{5} \times \frac{6}{6}$$

$$6$$

$$(3 \times 5) - (6 \times 2)$$

$$y - 20$$

A variable represents the unknown number in the expression or equation. For example, $4 \times t = 12$. The letter "t" represents the number which multiplies by 4 to equal 12.

Read the sentences below and write an expression. See the example.

Robin has 10 chocolates and Martin has m chocolates. Write an expression of chocolates that Martin and Robin have together.

Robin has 10
Martin has m



The expression is $10 + m$

Bobby grows 20 carrots and Tommy grows k carrots. Write the expression of carrots that both Bobby and Tommy have.



Bobby has 20
Tommy has k

The expression is $20 + k$

Julie has 7 jelly beans. She gave y jelly beans to Susie. Write the expression of jelly beans that she has left.



Julie has 7
Susie has y

The expression is $7 - y$

Sally ate 2 pieces of cake in the morning and n pieces in the evening. Write the expression for the amount of cake she had today.



Sally ate 2 in the morning
Sally ate n in the evening

The expression is $2 + n$

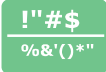
Ronny had 12 paper clips. He lost p of them. Write the expression of paper clips Ronny has left.



Ronny has 12
Ronny lost p

The expression is $12 - p$

Answer Sheet



Writing Expressions With Variables #2

An expression in math is a sentence containing numbers and the operations. Below are examples of expressions:

$$2 + 3$$

$$17 - 16 + 2$$

$$\frac{2}{5}x$$

$$6$$

$$(3x) - (6x + 2)$$

$$y - 20$$

A variable is a letter (x , y , t , etc.) that represents the unknown number in an expression or equation. When a variable is next to a number, it means multiply. For example: $4t = 12$ means 4 multiplied by t equals 12.

Read the sentences below and write an expression. See the example.

There are y letters in the bag. They are divided into 4 equal groups. Write an expression of the letters after dividing.

Number of letters is y
Divided into 4

The expression of division is $\frac{y}{4}$



There are 20 people in the room. They are divided into m equal groups. Write the division expression of the number of people in each group.



$$\frac{20}{m}$$

Ashley has 25 flowers. The number of flowers Sam has is z times more than what Ashley has. Write a multiplication expression of flowers that Sam has.



$$25 \times z$$

A piece of wood is 20 feet long. It was cut into k equal pieces to make a track. Write a division expression of the length of each piece of wood.



$$\frac{20}{k}$$

Mary has p handbags. Lynn has 2 times more than Mary. Write the multiplication expression of the handbags that Lynn has.



$$p \times 2$$

Answer Sheet

Algebraic Expressions

(answer sheet)

Simplify the following expressions.

1.) $5a + 6a = 11a$

2.) $3a + a = 4a$

3.) $8a - 3a = 5a$

4.) $10a - 2a = 8a$

5.) $9a + 4a = 13a$

6.) $11a - 7a = 4a$

7.) $4b + 3b = 7b$

8.) $12b - 6b = 6b$

9.) $5b + 9b = 14b$

Complete the following expressions.

1.) $12 \times 3 - 5 + 4 = 35$
 $36 - 5 + 4$
 $31 + 4$

2.) $4 + 7 \times 2 - 8 = 10$
 $4 + 14 - 8$
 $18 - 8$

3.) $5 - 7 + 2 \times 10 = 18$
 $5 - 7 + 20$
 $20 - 2$

4.) $15 \div 3 + 8 \times 5 = 45$
 $5 + 8 \times 5$
 $5 + 40$

5.) $11 \times 3 - 12 \div 4 = 30$
 $33 - 12 \div 4$
 $33 - 3$

6.) $5 + 9 - 16 \div 2 = 6$
 $5 + 9 - 8$
 $14 - 8$

Combine like terms to simplify the following expressions.

1.) $3a(a + 4) - 2a + 7 = 3a^2 + 10a + 7$
 $3a^2 + 12a - 2a + 7$

2.) $5a + 3a - 15 \div 3 = 8a - 5$
 $5a + 3a - 5$

3.) $4(3 + 9) + 10a - 4a = 48 + 6a$
 $4(12) + 10a - 4a$
 $48 + 10a - 4a$

4.) $(21 \div 7)(4a + a) - 12 = 15a - 12$
 $3(4a + a) - 12$
 $3(5a) - 12$

5.) $17 + 4(3 + a) - a = 29 + 3a$
 $17 + 12 + 4a - a$
 $29 + 4a - a$

6.) $10a - 4a + 27 \div 3 = 6a + 9$
 $10a - 4a + 9$

Answer Sheet

Math
Algebra

Algebra Action! ANSWER SHEET Value of The Expression

A variable represents the unknown number in the expression or equation.
For example, $4 \times t = 12$. The letter "t" represents the number which multiplies by 4 to equal 12.

An expression in math is a sentence containing numbers and the operations. Below are examples of expressions:

$$2 + 3$$

$$17 - 16 + 2$$

$$\frac{2}{5}x$$

$$6$$

$$(3 \times 5) - (6 \times 2)$$

$$y - 20$$

We can find the value of the expression $7 + y$ by placing the variable with the number.
For example: if $y = 5$

1. Put 5 in the place of y

$$7 + y$$
$$7 + 5$$

2. Calculate it

$$7 + 5 = 12$$

Find the value of the expressions below. Show your work.

$$17 - h$$

If $h = 4$

$$17 - h$$
$$17 - 4 = 13$$

$$4 + y + 7$$

If $y = 8$

$$4 + y + 7$$
$$4 + 8 + 7 = 19$$

$$(12 - b) + 5$$

If $b = 3$

$$(12 - b) + 5$$
$$(12 - 3) + 5 = 14$$

$$(5 \times m) + 1$$

If $m = 6$

$$(5 \times m) + 1$$
$$(5 \times 6) + 1 = 31$$

$$(4 \times p) \times 2$$

If $p = 10$

$$(4 \times p) \times 2$$
$$(4 \times 10) \times 2 = 80$$

$$20 + (6 \times w)$$

If $w = 3$

$$20 + (6 \times w)$$
$$20 + (6 \times 3) = 38$$