

Warmup

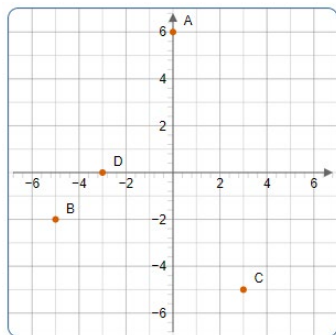
1. Name the points:

A _____

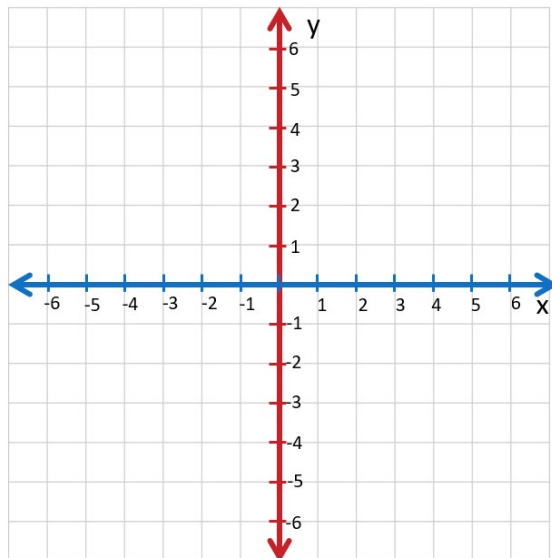
B _____

C _____

D _____

2. Graph the equation $y = -2x + 3$

x	-2x+3	y
-2		
-1		
0		
1		



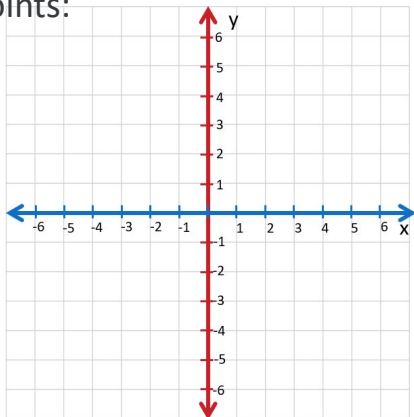
3. Plot the points:

A: (0, -3)

B: (4, 0)

C: (-5, 2)

D: (-4, 3)

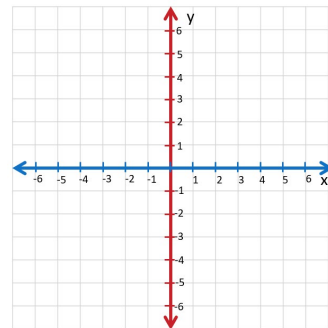


4. A point is defined by an ordered pair (____, ____)

A point on the x-axis will have a 0 for the _____.

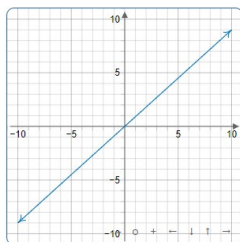
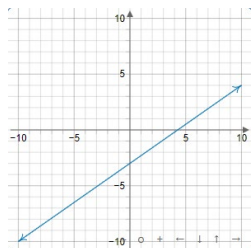
A point on the y-axis will have a 0 for the _____.

5. Label the Quadrants.



I. Y-Intercept

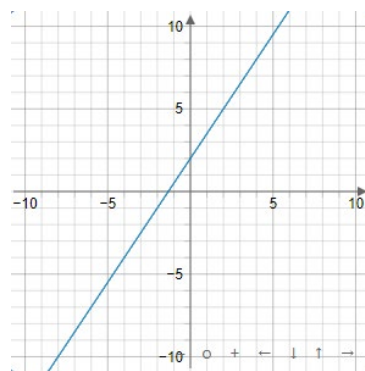
Y-Intercept is where the graph crosses the y-axis



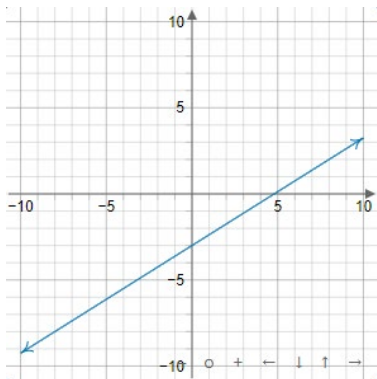
The x-value of the y-intercept is always _____

Give the ordered pair of the y-intercept.

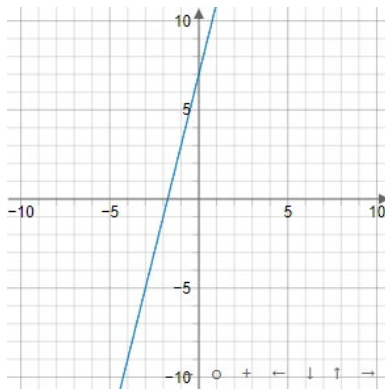
(____, ____)



6. Give the ordered pair of the y-intercept.



7. Give the ordered pair of the y-intercept.

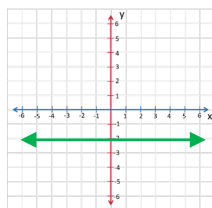
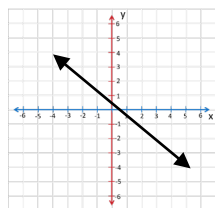
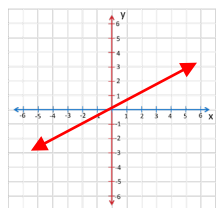


8. Give the ordered pair of the y-intercept.

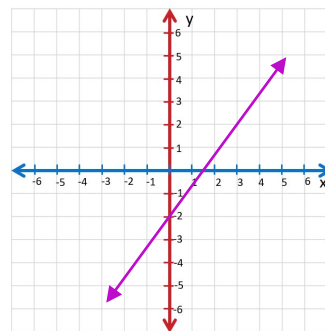
II. Slope

Slope is the ratio of the change in y to the corresponding x - values.

$$\text{Slope} = \frac{\text{change of } y}{\text{change of } x}$$



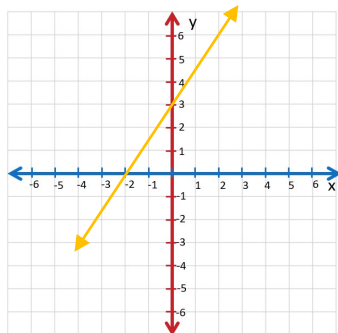
Start at the y-intercept.
Determine the next point with integer x and y values.



Determine the y-intercept and slope of the line.

Y-intercept: _____

Slope: _____

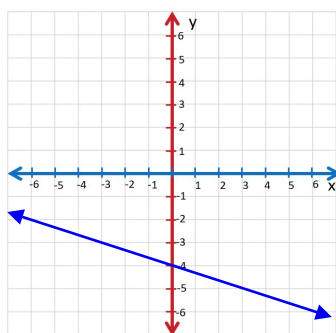


The line is
Increasing / decreasing

Determine the y-intercept and slope of the line.

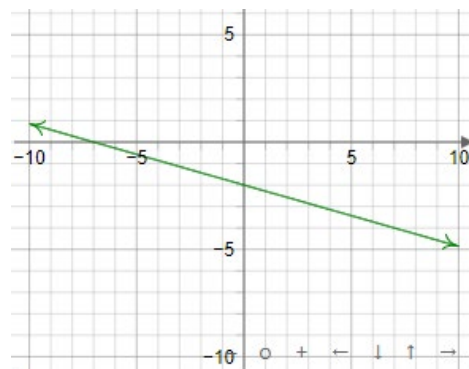
Y-intercept: _____

Slope: _____



The line is
Increasing / decreasing

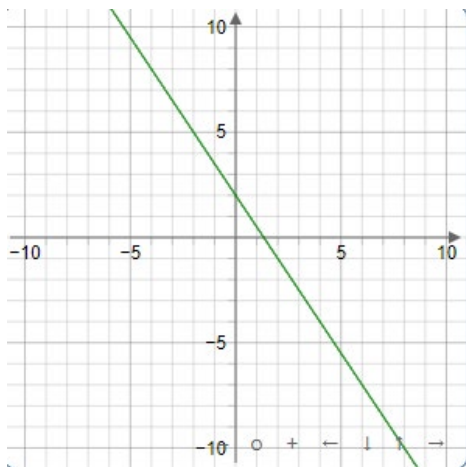
9. Give the slope of the linear equation:



The line is
Increasing / decreasing

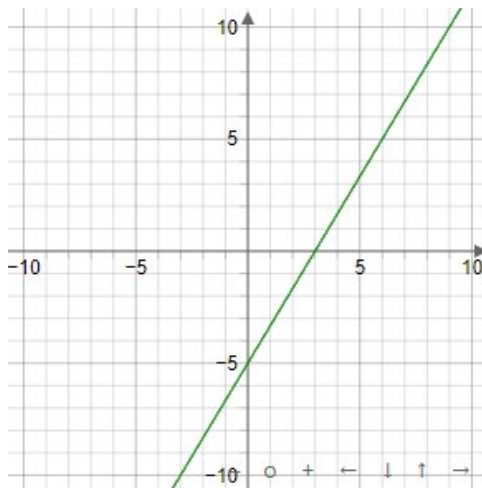
The slope is _____

10. Give the slope of the linear equation:



The slope is _____

11. Give the slope of the linear equation:



The slope is _____

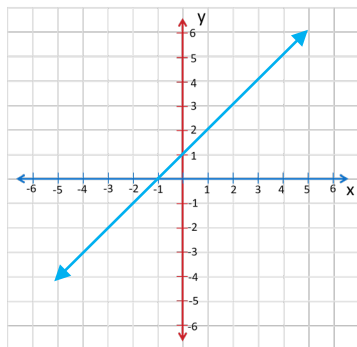
12. Give the slope of the linear equation:

III. The Equation of a Line

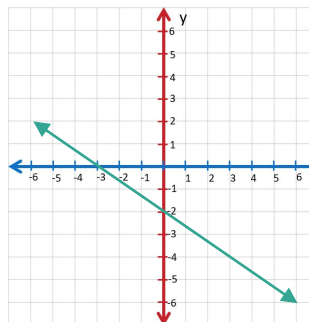
Linear Equation is an equation of a line.

Slope-Intercept form of the line is $y=mx+b$

$m = \text{Slope} = \frac{\text{change of } y}{\text{change of } x}$ $b = \text{y-intercept}$



Give y-intercept, slope, and the equation of the line.



Y-intercept: _____

The ordered pair of the y-intercept: (____, ____)

The slope is _____

The equation of the line is: $y = \underline{\hspace{2cm}}$

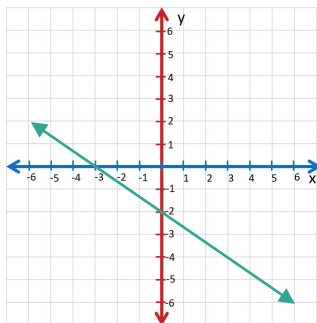
Give y-intercept, slope, and the equation of the line.

Y-intercept: _____

The ordered pair of the y-intercept: (____, ____)

The slope is _____

The equation of the line is: $y = \underline{\hspace{2cm}}$



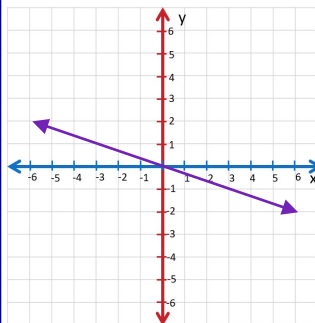
Give y-intercept, slope, and the equation of the line.

Y-intercept: _____

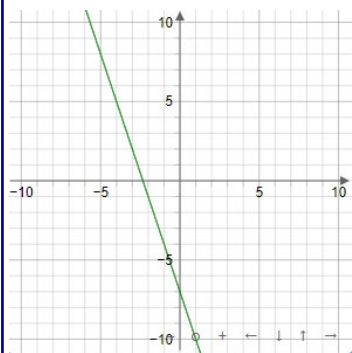
The ordered pair of the y-intercept: (____, ____)

The slope is _____

The equation of the line is: $y = \underline{\hspace{2cm}}$

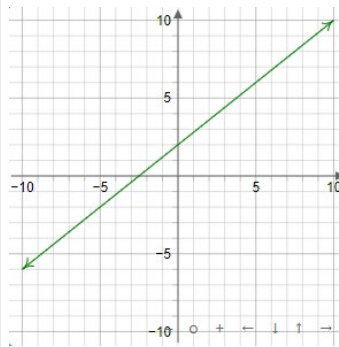


13. Give y-intercept, slope, and the equation of the line.



Y-intercept: _____
 The ordered pair of the
 y-intercept: (____,____)
 The slope is _____
 The equation of the line
 is: $y =$ _____

14. Give y-intercept, slope, and the equation of the line.



Y-intercept: _____
 The ordered pair of the
 y-intercept: (____,____)
 The slope is _____
 The equation of the line
 is: $y =$ _____

IV. Practice

15

16

17

18

19

20

21

22

23

24

25

26

27

28

Success Check # _____

Name:

Date:

Warmup

1. Match the Equation with the Property

___ $19 + 0 = 19$

___ $13 \cdot 1 = 13$

___ $7 \cdot (15 \cdot 8) = (7 \cdot 15) \cdot 8$

___ $7 + (15 + 8) = (7 + 15) + 8$

___ $10 \cdot 5 = 5 \cdot 10$

___ $20 + 4 = 4 + 20$

___ $18 \cdot 0 = 0$

- a) Commutative property of addition
- b) Commutative property of multiplication
- c) Associative property of addition
- d) Associative property of multiplication
- e) Identity property of addition
- f) Identity property of multiplication
- g) Multiplication property of zero

2. Simplify:

$3x + 2y + 1y + 4x$

3. Simplify: $y + x^2$,
when $x = -8$, and $y = 4$

4. Fill in the blank:

$4(5 + 6) = \underline{\hspace{1cm}}(5) + 4(6)$

5. Write

$5 \cdot 11 \cdot 5 \cdot 11 \cdot 5 \cdot 11 \cdot 5$
as a product of
powers.

I. Monomials, Binomials, Trinomials

Polynomial is an expression with 1 or more terms. In simplified form there are no square roots, the exponents are whole numbers

Monomial is a polynomial with 1 term

$-4x \quad 16x^2 \quad 20x^2y^2$

binomial is a polynomial with 2 terms

$-4x + 2y \quad 16x^2 - 5y \quad 20x^2y^2 + 9x$

trinomial is a polynomial with 3 terms

$8 - 4x + 2y \quad 9 + 16x^2 - 5y \quad 20x^2y^2 + 9x - 7$

Give the following monomials determine if they are like terms. Then determine if they are equivalent.

$-9xy$

$-90xy$

equivalent like-terms
like-terms
neither

Like-terms like terms have the same variable factors.

-9xyz 18xyz

If the coefficients are equal, the terms are considered equivalent.

-9st -9ts

If the coefficients are opposite numbers, then they are zero pairs.

-8ab 8ab

8. Match the like terms

9sc

7ps

7p

8cs

3ps

-4p

-10mp

-4m

4m

-5mp

10. Match the zero pairs

2a

4cf

-6b

6b

3ab

-2a

8bc

-3ab

-4cf

-8bc

II. Addition of Monomials and Binomials

Addition of monomials and binomials add the like-terms.

$$(7x + -10) + -7x$$

$$(5s - 9) + (-7s + 8)$$

11. $(5a + 7) + 9a$

12. $(10m + -2) + (8m + -5)$

13.

II. Addition of Trinomials

Addition of trinomials add the like-terms.

$$(3x^2 - 10x + 6) + (7x^2 + 9x - 8)$$

$$(5s - 9 - 5t) + (6t - 7s + 8)$$

$(-5a + 3b + 7) + (9b + 9a + 9)$

14. $(6p + -3r + 5s) + (-4p + 8r + -8s)$

15. $5h + 7k + -3m + 6h + -2k + 8m$

16.

IV. Practice

17

18

19

20

21

22

23

24

25

26

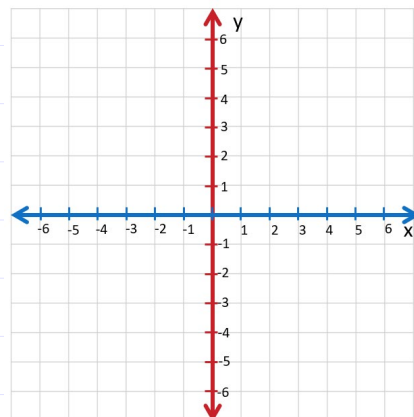
27

28

29

30

31



Success Check # _____

Name:

Date:

Warmup

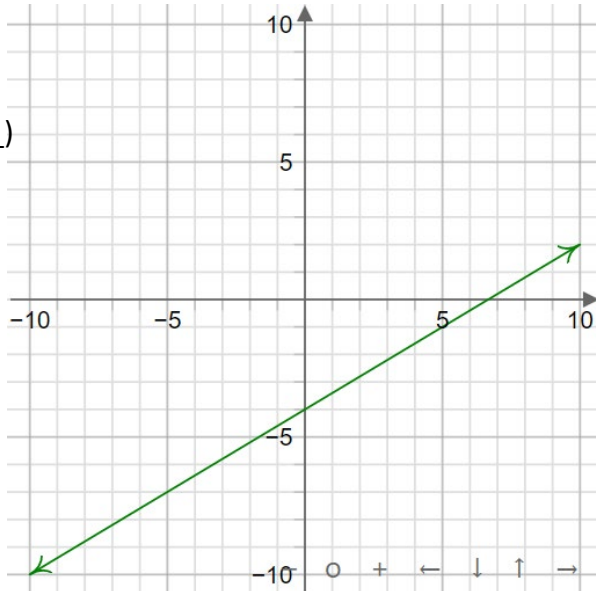
1. Find the Y-Intercept and slope of the line

Y-intercept: ____

The ordered pair of the
y-intercept: (____, ____)

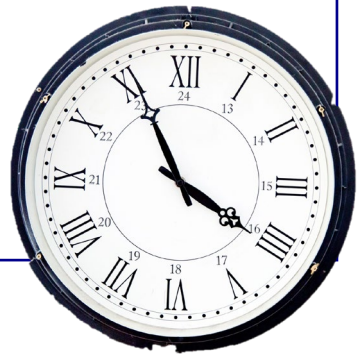
The slope is ____

The equation of the line
is: $y =$ _____



2. Simplify:

$$(-8m + 9n) + (8m + -2n)$$



Today, Roman Numerals are seen on clocks, watches, sporting events, books, outlines, and various other places.

I. Roman Numerals

Roman Numerals is an old decimal system that uses **Symbols to represent numbers.**

I = 1

V = 5

X = 10

L = 50

C = 100

D = 500

M = 1000

The number 0 is not existent in the Roman System



3. Write each number in Roman Numerals

1	50	10	1000
500	5	100	

Roman Numeral Rules:

- A Symbol may not appear more than 3 times in a row.
 $XXX = 30$ $III = 3$
- When a lesser value comes before one of greater value, subtract.
 $IV = 1 \text{ less than } 5 = 4$
- When a greater value comes after one of lesser value, add.
 $LX = 50 + 10 = 60$

II. Roman Numerals from 1 to 50

Convert each Roman Numeral to our Number System

XLII

XXVI

XIX

VIII

XXXIV

Write the following as Roman Numerals

4

9

29

40

49

1 = I

11 = XI

21 = XXI

31 = XXXI

41 = XLI

2 = II

12 = XII

22 = XXII

32 = XXXII

42 = XLII

3 = III

13 = XIII

23 = XXIII

33 = XXXIII

43 = XLIII

4 = IV

14 = XIV

24 = XXIV

34 = XXXIV

44 = XLIV

5 = V

15 = XV

25 = XXV

35 = XXXV

45 = XLV

6 = VI

16 = XVI

26 = XXVI

36 = XXXVI

46 = XLVI

7 = VII

17 = XVII

27 = XXVII

37 = XXXVII

47 = XLVII

8 = VIII

18 = XVIII

28 = XXVIII

38 = XXXVIII

48 = XLVIII

9 = IX

19 = XIX

29 = XIX

39 = XXXIX

49 = XLIX

10 = X

20 = XX

30 = XXX

40 = XL

50 = L

III. Practice

10

11

12

13

14

15

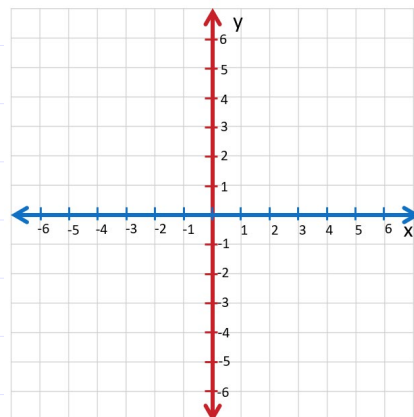
16

17

18

19

20



Success Check # _____

Name:

Date:

Warmup

1. Use the distributive property to fill in the missing factors.

$$4(2+9) = \underline{\hspace{1cm}}(2) + \underline{\hspace{1cm}}(9)$$

2. Calculate:

$$-6(-15) = \underline{\hspace{2cm}}$$

$$-7(14) = \underline{\hspace{2cm}}$$

$$-8(-11) = \underline{\hspace{2cm}}$$

$$9(10) = \underline{\hspace{2cm}}$$

3. $(5x+9) + (7z+4)$:



When making baked potatoes, one ingredient at a time is distributed to potato half.

I. Distributive Property with Variables

Distributive Property $a(b+c) = a(b) + a(c)$

$$4(-y + 12)$$

$$5(x - 9)$$

$$2(z-7)$$

4. $4(-t+10)$

5.

II. Distributive Property with Signed Numbers and Variables

Distribute a Negative Value:

Distribute the negative value to each term inside the parentheses.

$$-8(x + 3)$$

$$-9(4 - x)$$

$$-6(-y - 3)$$

$$-13(s-12)$$

$$-12(9x-6)$$

$$-10(15y+6)$$

$$4(-t + 10)$$

6. $-(4r + 7)$

7. $-16(2y-3)$

8.

III. Algebraic Expressions Using the Distributive Property

Distribute the negative value to each term inside the parentheses.

15 - 8(x + 3)

10 - 9(4 - x)

8y - 6(-y - 3)

$8h + 6(5h - 2)$

$8h - 6(5h - 2)$

9. $20 - 8(-5s - 10)$

10. $8w - 15(-2w + 3)$

III. Practice

10

11

12

13

14

15

16

17

18

19

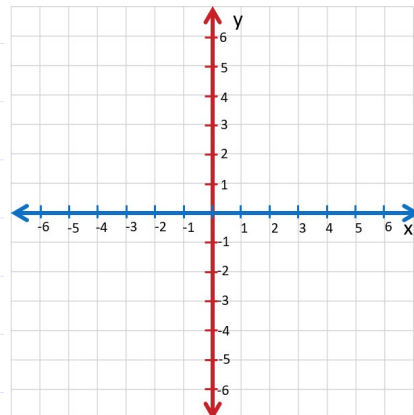
20

21

22

23

24

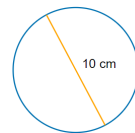


Warmup

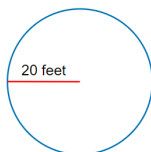
1. π is a number that helps us with calculating area, volume and circumference of circles. The first 50 digits of π are
3.14159265358979323846264338327950288419716939937510

What value for π should you use in this class? _____

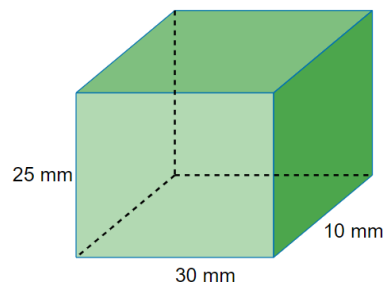
2. Calculate Area:



3. Find the circumference.

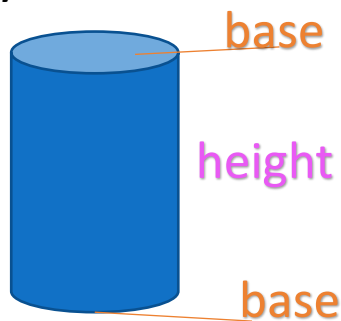


4. What is the volume of the rectangular prism?



I. Cylinders

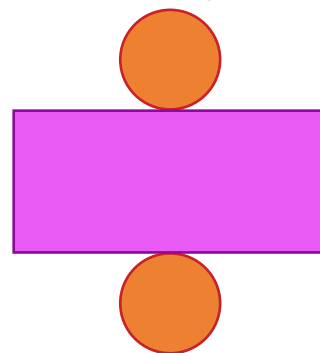
Cylinder: A 3-dimensional figure that has two circular bases.



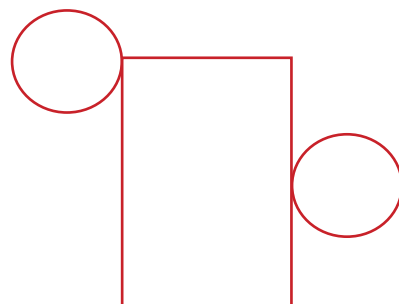
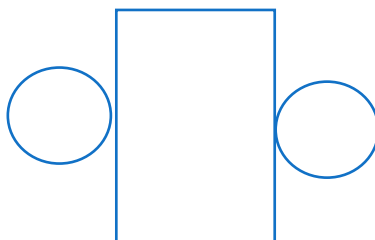
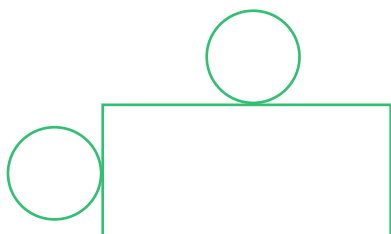
Base: The top and bottom of the cylinder. The bases are circles.

Height: The distance between the two bases.

A net of a cylinder



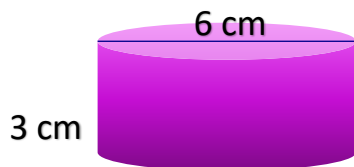
5. Which of the following nets will make a cylinder?



II. Volume of a Cylinder

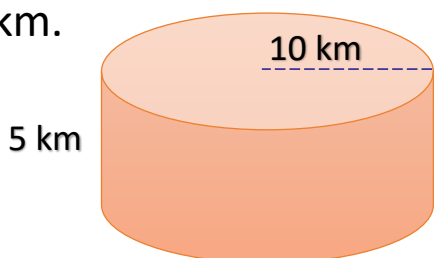
To find the **volume** of an object multiple the area of the base times the height.

$$V = \pi r^2 h$$

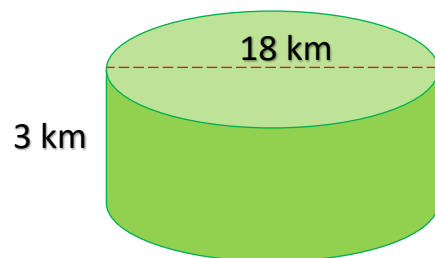


1. Write the Formula
2. Substitute the known values
3. Simplify
4. Write the Units
5. Check – Does the answer make sense?

6. Calculate the volume of a cylinder with a radius of 10 km and a height of 5 km.



7. Calculate the volume of a cylinder with a diameter of 18 km and a height of 3 km.



8. Write the steps for solving formula questions.

III. Surface Area of a Cylinder

To find the **total surface area** of an object find the area of each face.

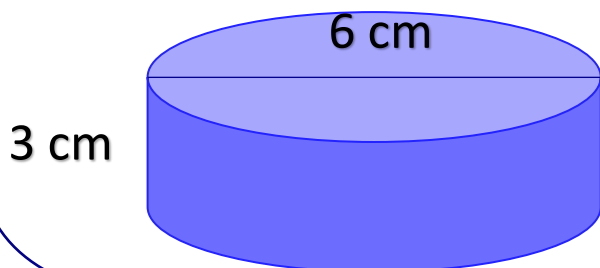
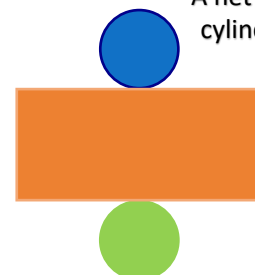
Draw the net of the object to help 'see' each surface.

TSA = Area of the top base + Area of the bottom base + area of the rectangular side

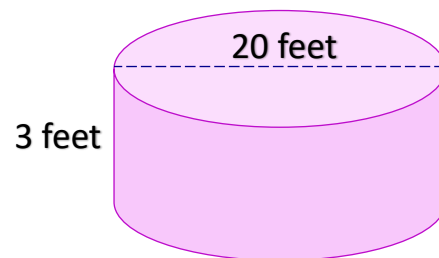
$$\text{TSA} = \pi r^2 + \pi r^2 + \pi dh$$

$$\text{TSA} = 2\pi r^2 + \pi dh$$

A net of a cylinder

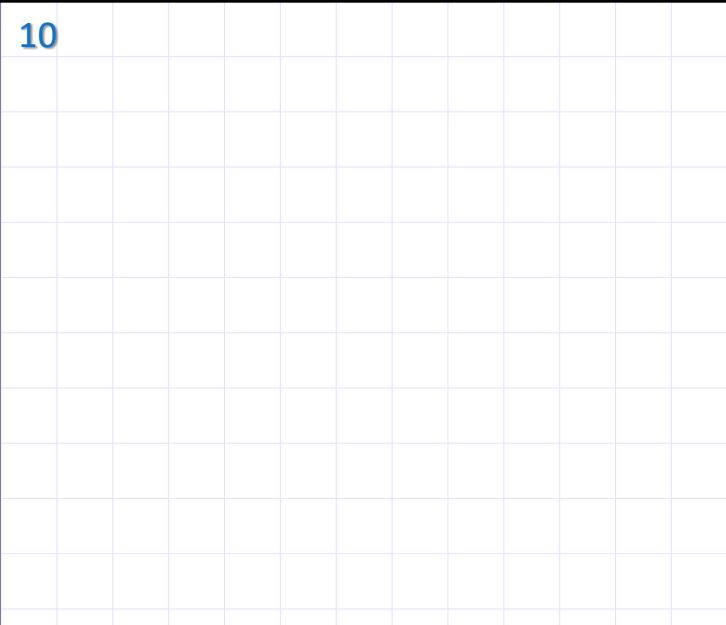


9. Calculate the total surface area of a cylinder with a diameter of 20 feet and a height of 3 feet.

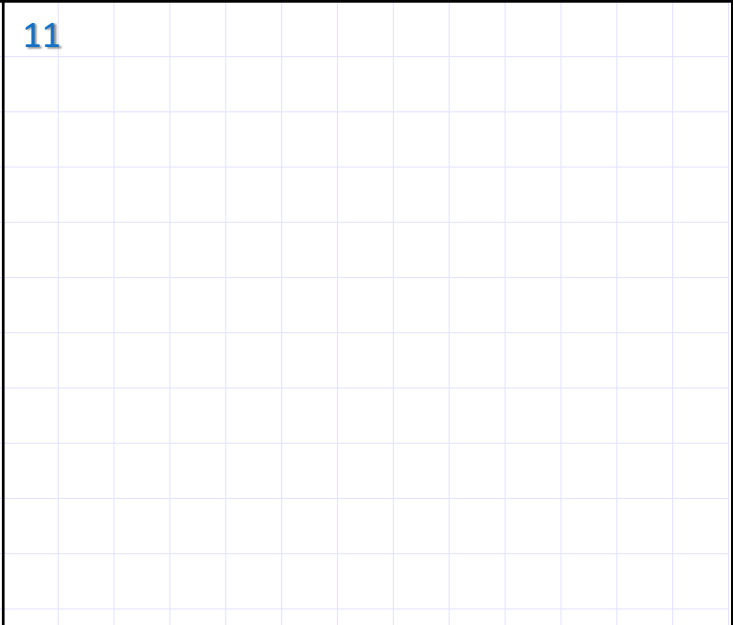


IV. Practice

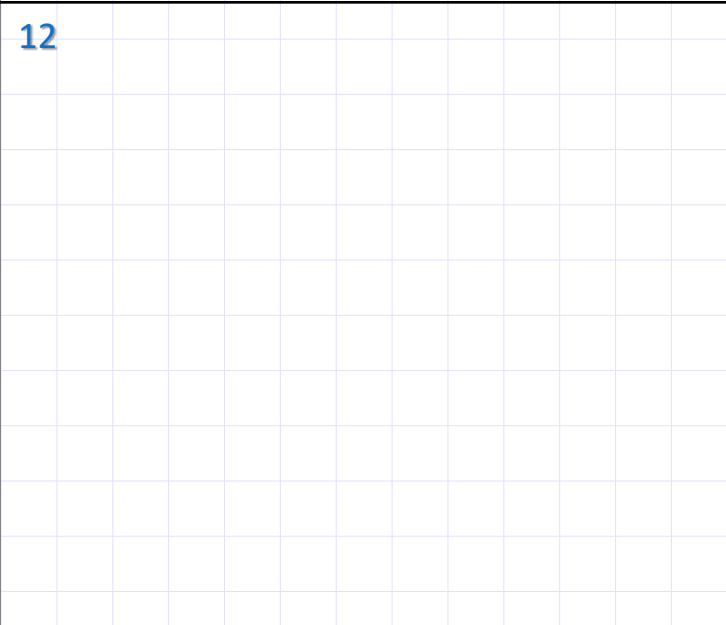
10



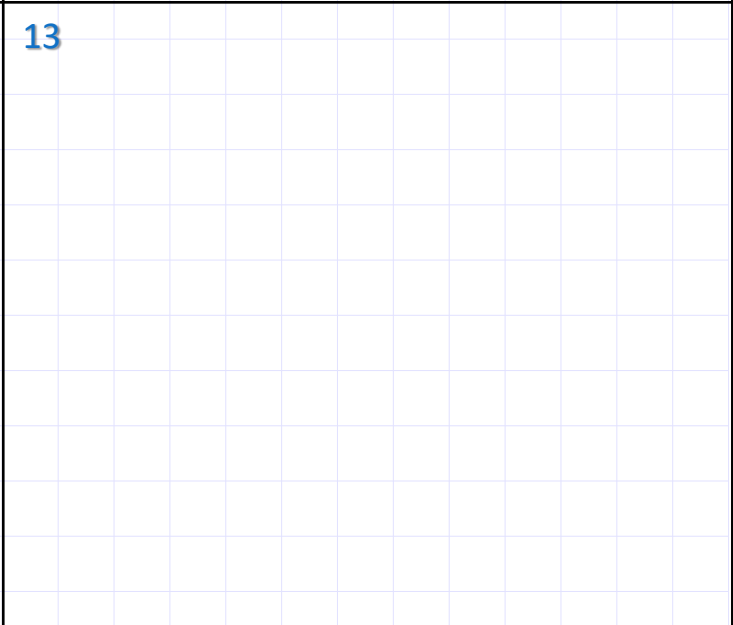
11



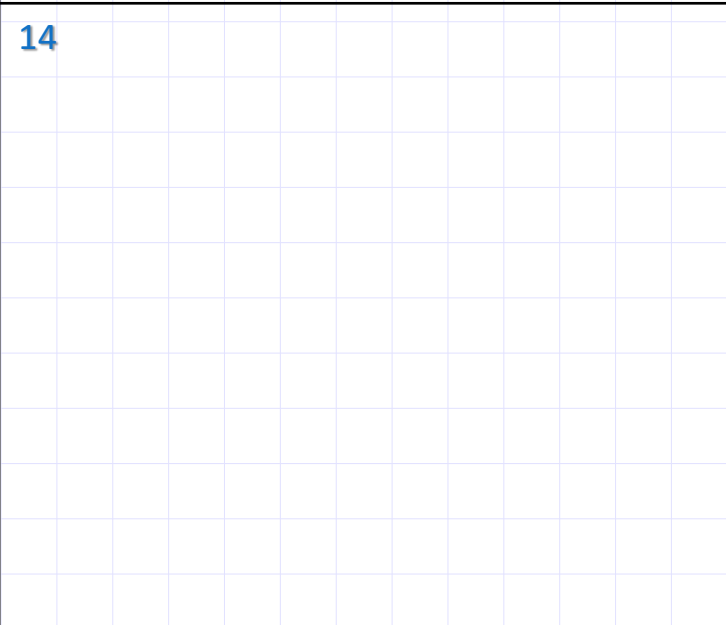
12



13



14



15



16

17

18

19

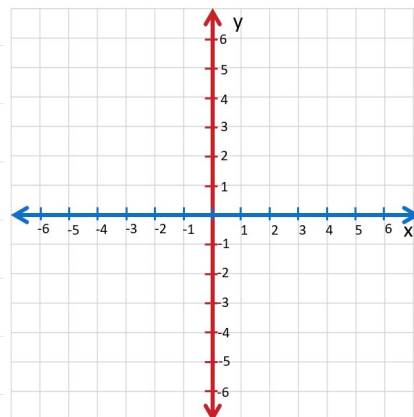
20

21

22

23

24



Success Check # _____

Name:

Date:

Warmup

1. Simplify: $5t - 8(-3t + 7)$

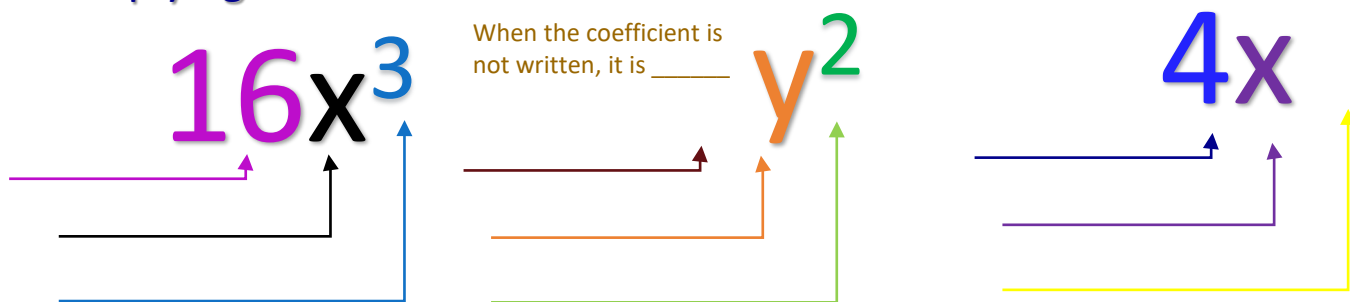
2. Write 3^5 as a product of the same factor.

3. Fill in the blank:

$4(3 + 2) = 4(3) + \underline{\hspace{1cm}}(2)$

What is the value of each side of the equation ?

I. Multiplying Monomials with a Coefficient of 1



To find the product of monomials with a coefficient of 1, keep the base and add the exponents.

$z^2 \cdot z^3$

$y^4 \cdot y^5$

$x^a \cdot x^b$
 Where a and b are whole numbers.

$6 \cdot 6^4$

4. $a^5 \cdot a^9$

5. $s^{10} \cdot s^3$

6.

7.

II. Multiplying a Whole Number by a Monomial

To find the product of a whole number and a monomial multiply the whole number by the **coefficient**, keep the base and exponent.

$$3(z^3)$$

$$(4)(2y^5)$$

$$a(bx^c)$$

Where a, b and c are whole numbers.

The coefficient of z^3 is _____

When a monomial does not have a coefficient written, it is assumed to be _____ because multiplying by _____ does not change the value.

$$6(6t^4)$$

$$8. \quad 3(8x^6)$$

$$9. \quad 10(b^6)$$

10.

III. Multiplying two Monomials

To find the product of monomials multiply the coefficients, keep the base and add the exponents.

$$(4x^2)(7x^4)$$

$$(11m^3)(7m)$$

$$ax^c(bx^d)$$

Where a, b, c, and d are whole numbers.

$$(6r^3)(6r^4)$$

11. $(4a^6)(8a^9)$

12. $9s^{10} \cdot 5s^3$

IV. Multiplying Monomials with Negative Coefficients

To find the product of monomials with integer coefficients, multiply the coefficients (follow the rules of signed numbers), keep the base and add the exponents.

$$(2v^3)(-6v^6)$$

$$(-6w^2)(-7w^4)$$

$$(-e^5)(7e^2)$$

13. $(9p^7)(-4p^3)$

14. $(-5v^6)(-3v)$

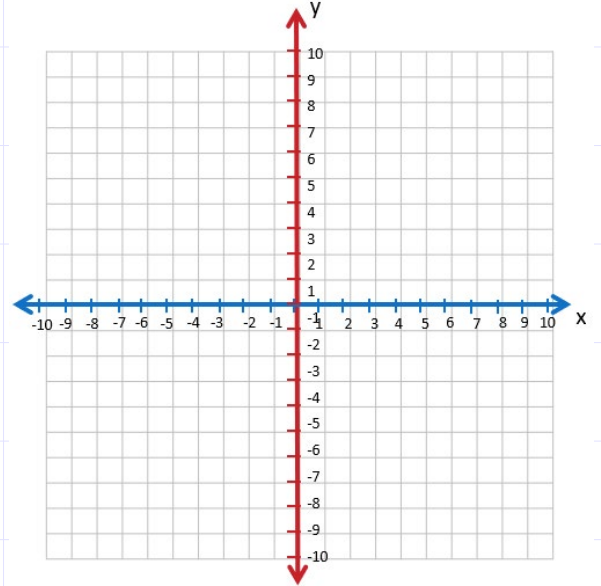
15.

III. Practice

16

17

18



19

20

21

22

23

24

25

26

27

28

Success Check # _____

Name:

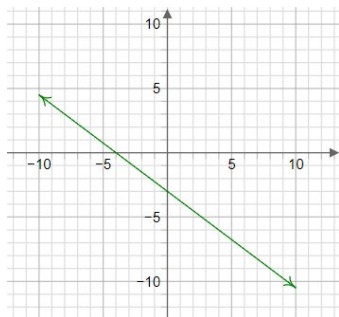
Date:

Warmup

1.

Slope=_____

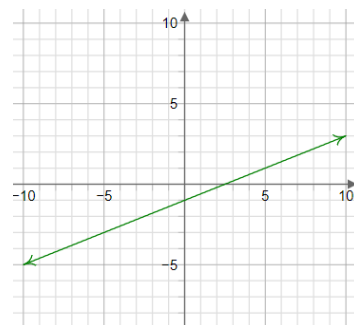
3. Give the slope of the linear equation.



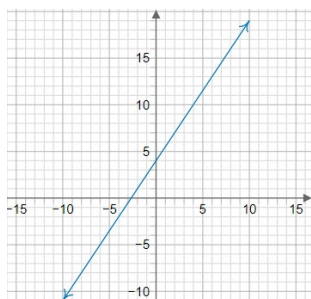
4. Give the equation of the linear equation.

The y-intercept of the line is _____
 The ordered pair of the y-intercept is (____, ____)

The slope is _____

The equation of the line is $y =$ _____

2. Give the ordered pair of the y-intercept.



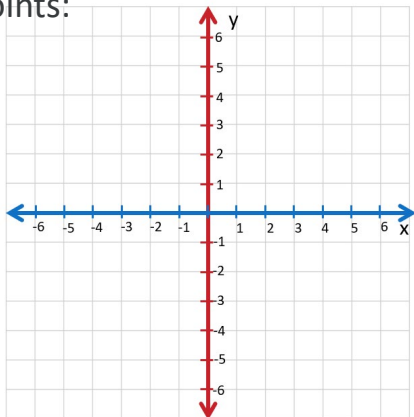
5. Plot the points:

A:(5,-2)

B:(0,3)

C:(-1,4)

D:(-4,0)

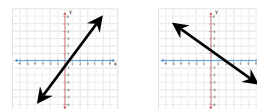


6. A point is defined by an ordered pair (____, ____)

A point on the x-axis will have a 0 for the _____.

A point on the y-axis will have a 0 for the _____.

7. Determine if the slope is positive or negative.

I. Find the y-Intercept from Equations in $y=mx+b$ form $Y = mx + b$ The slope-intercept equation of a linear equationSlope = $m = \frac{\text{Change in } y}{\text{Change in } x}$ $b = \text{y-intercept}$

The ordered pair of the y-intercept is (0, b)

8. Give the ordered pair of the y-intercept.

$$y = \frac{-3}{2}x + 4$$

Give the ordered pair of the y-intercept of the equation
 $y = -2x + 5$

Give the ordered pair of the y-intercept of the linear equation
 $y = \frac{2}{3}x - 3$

9. Give the ordered pair of the y-intercept.

$$y = \frac{2}{7}x - 3$$

II. Determine the Slope of Linear Equations in the form $y = mx + b$

Slope is the ratio of the change in y to the corresponding x -values.

$$\text{Slope} = \frac{\text{change of } y}{\text{change of } x}$$

When the slope is a whole number, change it to a fraction by writing a 1 in the denominator

$$y = -2x + 5$$

$$y = 3x - 6$$

Give slope of the linear equation

$$y = \frac{2}{3}x - 3.$$

10. Give the slope of the linear equation.

$$y = \frac{-3}{2}x + 4$$

11. Give the slope of the linear equation.

$$y = \frac{2}{7}x - 3$$

III. Graph Linear Equations in Slope-Intercept form

$Y = mx + b$ is the slope-intercept form of a linear equation, or line.

$$Y = -2x + 1$$

To graph the line:

1. The order pair of the y -intercept is _____, graph it.
2. Use the slope to make another point.

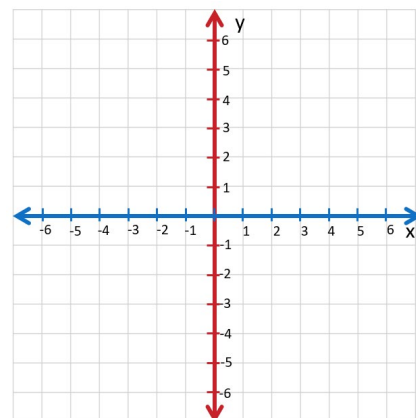
The change in y is _____

Start at the y -intercept, If the slope is positive go up, if the slope is negative, go down.

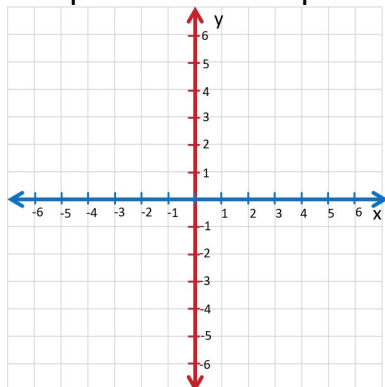
The change in x is _____, go the right

Graph the point

3. Draw a line through the 2 points. (You can use the slope to graph more points)
4. Label the line.



Graph the linear equation $y = \frac{-3}{2}x + 4$



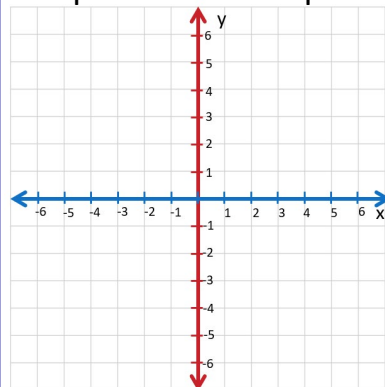
Positive Slope
Increasing



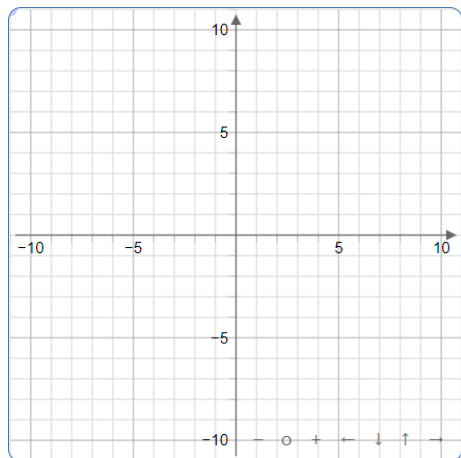
Negative Slope
decreasing



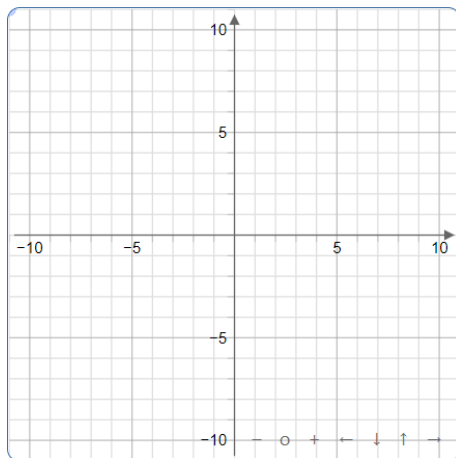
Graph the linear equation $y = \frac{2}{7}x - 3$



12. Graph the linear equation. $Y = -\frac{3}{2}x + 4$



13. Graph the linear equation. $Y = \frac{2}{7}x - 3$



IV. Practice

14

15

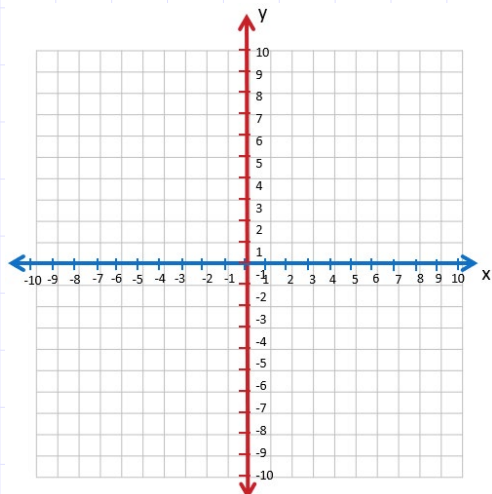
16

17

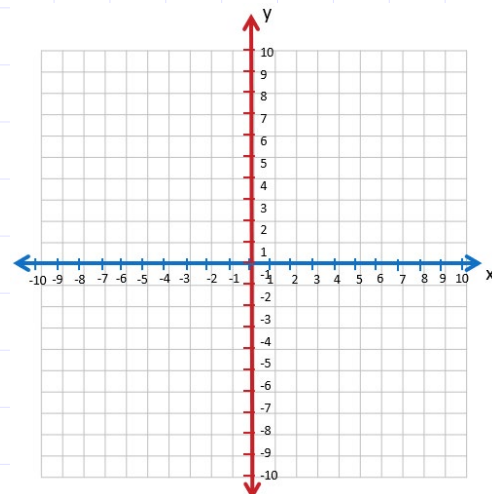
18

19

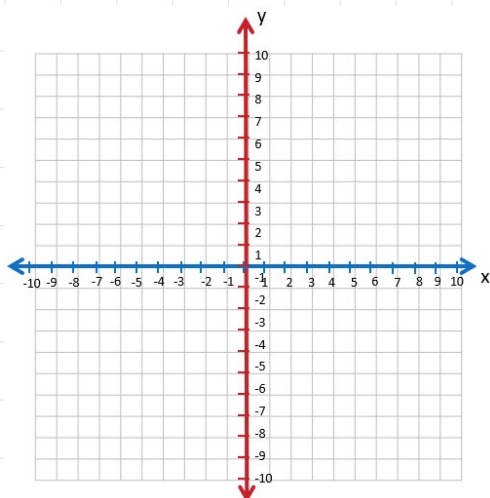
20



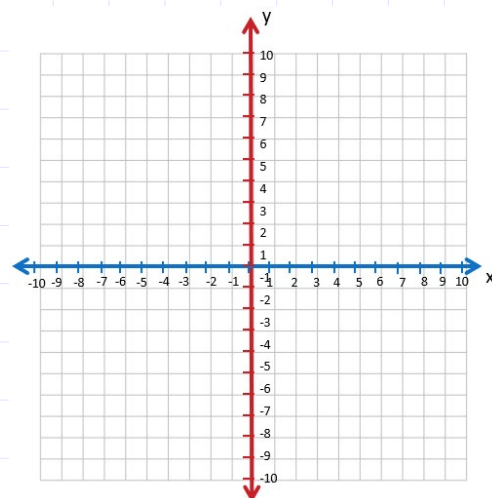
21



22



23



24

25

26

27

28

29

30

Success Check # _____

Name:

Date:

Name:

Attempt #:

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

Name:

Attempt #:

Test # ____ Answer Sheet

1

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20