Use the 2 points indicated to solve for slope. You can use $\frac{rise}{run}$ but you ***MUST*** show work!

Kuta Software - Infinite Algebra 1

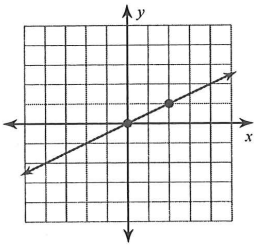
Name_____

Finding Slope From a Graph

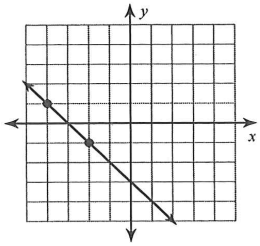
Date_____ Period____

Find the slope of each line.

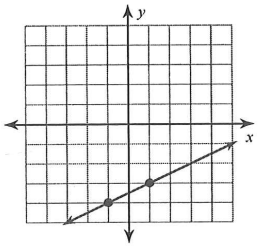
1)



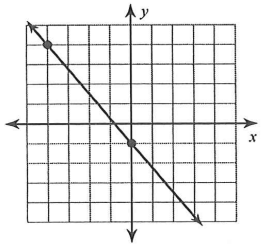
2)



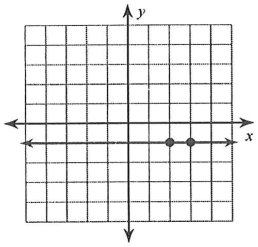
3)



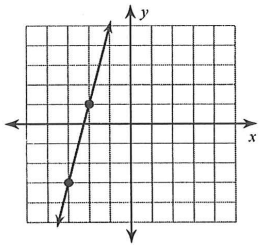
4)



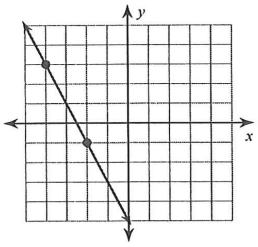
5)



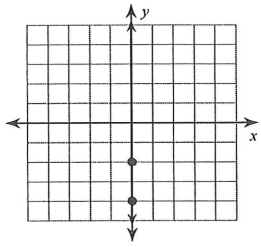
6)



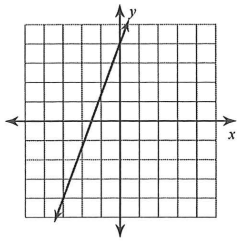
7)



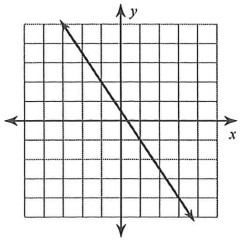
8)



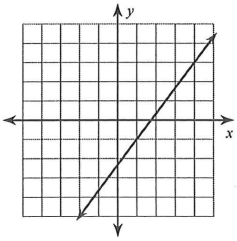
9)



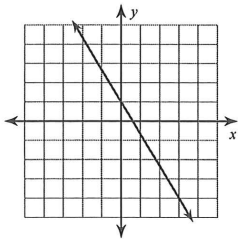
10)



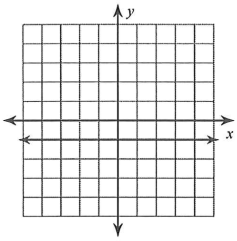
11)



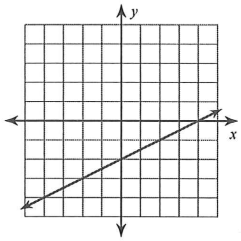
12)



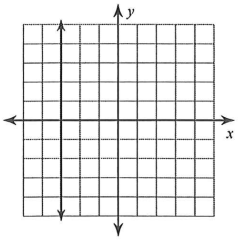
13)



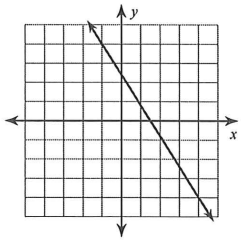
14)



15)



16)



Must Show work with formula for slope!

Kuta Software - Infinite Algebra 1 Name_____

Finding Slope From Two Points

Date_____ Period____

Find the slope of the line through each pair of points.

1) (19, –16), (–7, –15)

2) (1, –19), (–2, –7)

3) (–4, 7), (–6, –4)

4) (20, 8), (9, 16)

5) (17, –13), (17, 8)

6) (19, 3), (20, 3)

7) (3, 0), (–11, –15)

8) (19, –2), (–11, 10)

9) $(6, -10), (-15, 15)$

10) $(12, -18), (-15, -18)$

11) $(3, -20), (5, 8)$

12) $(15, 8), (-17, 9)$

13) $(-19, 12), (-9, 1)$

14) $(12, 2), (-7, 5)$

15) $(6, -12), (15, -3)$

16) $(9, 3), (19, -17)$

Kuta Software - Infinite Algebra 1 Name_____

Finding Slope From an Equation

Date_____ Period____

Find the slope of each line.

1) $y = -\frac{5}{2}x - 5$

2) $y = -\frac{4}{3}x - 1$

3) $y = -x + 3$

4) $y = -4x - 1$

5) $2x - y = 1$

6) $x + 2y = -8$

7) $8x + 3y = -9$

8) $4x + 5y = -10$

9) $x - y = -2$

10) $4x - 3y = 9$

11) $3x + 2y = 6$

12) $4x - 5y = 0$

13) $y = -1$

14) $x + 5y = -15$

15) $-2y - 10 + 2x = 0$

16) $x + 5 + y = 0$

17) $3x + 20 = -4y$

18) $-15 - x = -5y$

19) $-1 = -2x + y$

20) $-x - 1 = y$

21) $0 = 5y - x$

22) $-30 + 10y = -2x$

Identify y-intercept and slope, then graph.

Kuta Software - Infinite Algebra 1

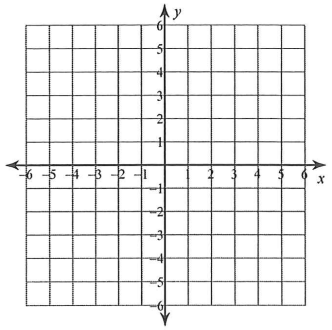
Name_____

Graphing Lines

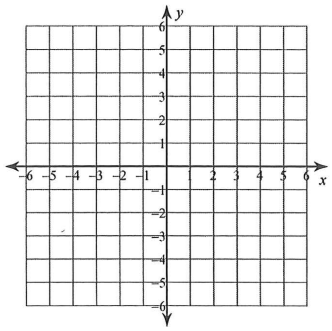
Date_____ Period____

Sketch the graph of each line.

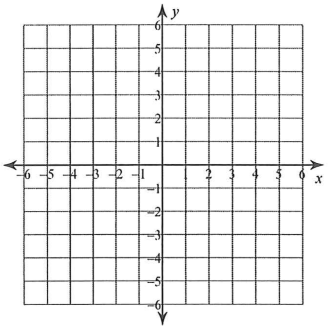
1) $y = \frac{7}{2}x - 2$



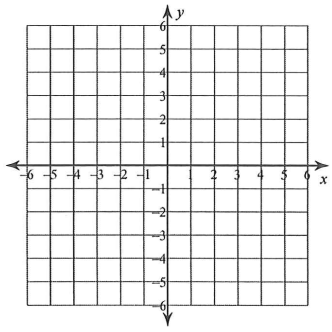
2) $y = -6x + 3$



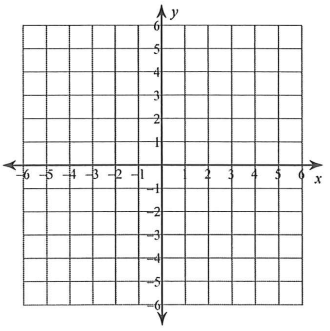
3) $y = -5$



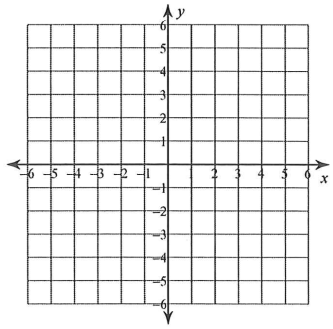
4) $y = \frac{6}{5}x + 1$



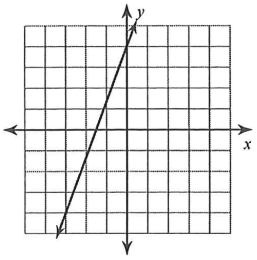
5) $y = \frac{1}{4}x + 2$



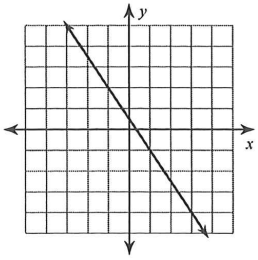
6) $x = 5$



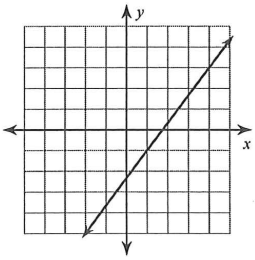
9)



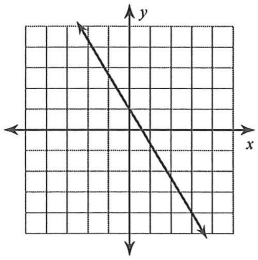
10)



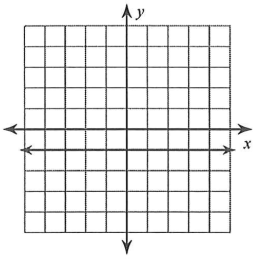
11)



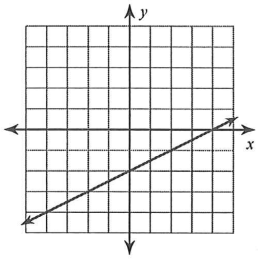
12)



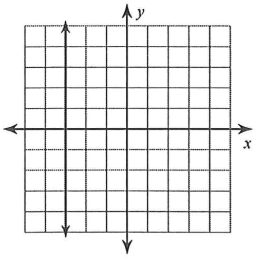
13)



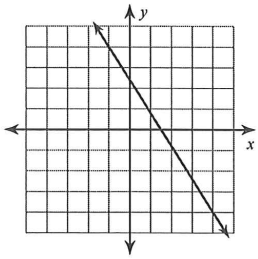
14)



15)



16)



EXPONENT RULES

Graphic Organizer

ZERO EXPONENT

$x^0 = 1$

Examples:

- $12^0 = 1$
- $5x^0 = 5 \cdot 1 = 5$
- $(-2)^3 n^0 = -8 \cdot 1 = -8$

NEGATIVE EXPONENTS

$x^{-a} = \frac{1}{x^a}$

Examples:

- $3^{-2} = \frac{1}{3^2} = \frac{1}{9}$
- $a^{-7} = \frac{1}{a^7}$
- $p^4 q^{-1} = \frac{p^4}{q}$

ADDING & SUBTRACTING MONOMIALS

▶ COMBINE LIKE TERMS! ◀

(DO NOT CHANGE common variables and exponents.)

Examples:

- $10x + 3x = 13x$
- $7k - 2k^2 + 6k^2 = 4k^2 + 7k$
- $-5m^2n - 4m^2n = -9m^2n$

PRODUCT RULE

$x^a \cdot x^b = x^{a+b}$

Examples:

- $9^5 \cdot 9^7 = 9^{12}$
- $a^7 \cdot a^{-1} \cdot b^3 \cdot b^{-5} = a^6 b^{-2} = \frac{a^6}{b^2}$
- $-2x^3y^7 \cdot 9x^4y = -18x^7y^9$

QUOTIENT RULE

$\frac{x^a}{x^b} = x^{a-b}$

Examples:

- $\frac{(-2)^{20}}{(-2)^5} = (-2)^{15}$
- $\frac{x^{12}}{x^3} = x^9$
- $\frac{r^2s^2}{r^2s^3} = \frac{1}{s}$
- $\frac{28m^5}{4m^3} = 7m^2$

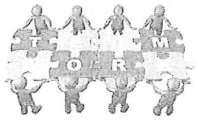
POWER RULE

$(x^a)^b = x^{ab}$

Examples:

- $(7^2)^9 = 7^{18}$
- $(w^4)^3 = w^{12}$
- $(-4r^3s^7)^2 = 16r^6s^{14}$

Group Members:	Per: _____



Review: Operations with Monomials

Directions: Work together to simplify each expression using the **exponent rules.** Do not divide up the work! Each person should be participating. At the end of class, one person's paper will be chosen at random and graded for the group.

Rules Review

Zero Exponent	Negative Exponent	Product Rule	Quotient Rule	Power Rule
$x^0 =$	$x^{-a} =$	$x^a \cdot x^b =$	$\frac{x^a}{x^b} =$	$(x^a)^b =$

What is the rule for adding and subtracting monomials?

Directions: Fill in the box with the missing exponent.

1. $6^2 \cdot 6^{\square} = 6^{12}$	**2.** $\frac{(-2)^{\square}}{(-2)^5} = (-2)^{-7}$	**3.** $(x^5)^{\square} = x^{15}$	**4.** $3a^5b^8 + a^5b^8 = 4a^{\square}b^{\square}$

Adding & Subtracting Monomials

Directions: Simplify each expression.

5. $6w^2 + 11w^2$	**6.** $-2x^{13}y^6 - 8x^{13}y^6$	**7.** $-5rs - (-5rs)$
8. $-5ab - 6b + 19ab - b$	**9.** $4x^2 - 3x - x - 27 + 5x^2$	**10.** $15mn - m^2 + n^2 - 28mn + 3m^2$
11. Subtract $8rs$ from $(-3rs)$.	**12.** Find the sum of $2p^5q^7$ and $(-16p^5q^7)$.	

Multiplying & Dividing Monomials

Directions: Simplify each expression. Final answers must contain only positive exponents.

13. $x^7 \cdot x^5$	**14.** $w^{-3} \cdot w^{-4}$	**15.** $(7k^4)(3k^9)$

16. $6a^{-2}b^{-1}\cdot(-2a^{11}b^{-4})$	**17.** $\frac{6^{12}}{6^{14}}$	**18.** $\frac{m^{7}n^{16}}{m^{4}n^{2}}$
19. $\frac{45p^{3}}{5p^{-1}}$	**20.** $\frac{20a^{-2}}{-10a^{-10}}$	**21.** $\frac{16c^{-6}d^{-2}}{12c^{-5}d^{2}}$

powers of monomials

Directions: Simplify each expression. Final answers must contain only positive exponents.		
22. $(3^{4})^{5}$	**23.** $(k^{3})^{8}$	**24.** $(w^{-2})^{9}$
25. $(9w^{7})^{2}$	**26.** $(-2a^{3}b^{4})^{5}$	**27.** $(4r^{2}s^{-1})^{-3}$

mixed practice

Directions: Simplify each expression. Final answers must contain only positive exponents.		
28. $\frac{15h^{16}}{5h^{4}}\cdot 9h^{2}$	**29.** $19x^{8}y^{18}-(6x^{4}y^{9})^{2}$	**30.** $\frac{28p^{5}}{(2p^{4})^{3}}$
31. $-6m^{5}n^{2}\cdot 2m^{2}n^{9}+15m^{7}n^{11}$	**32.** $(12w^{7}\cdot\frac{5}{6}w^{-3})^{2}$	**33.** $\frac{-8p^{8}\cdot 12p^{6}}{16p^{3}}$
34. $-7r^{4}s^{15}+\frac{20r^{-2}s^{16}}{4r^{-6}s}$	**35.** $\frac{18x^{5}y}{10xy^{2}-2xy^{2}}$	**36.** $(2c^{5}d^{2}-5c^{5}d^{2})^{4}$