Name:		1	2	3	4	5	6
Teacher:		Period:		Date:			

Algebra 1

Show All Work For Credit

1) *Evaluating Expressions*

Evaluate: $(x - 3)^2 + 2x - 4$ for $x = 5$

2) *Integer Operations*

a) $-13 + 5$

b) $-2 - (-7)$

c) $-5(-3)$

d) $-24 \div 6$

3) *Two-Step Equations*

Solve: $x + 3 = -2$

Solve: $-3x + 5 = 11$

4) *Simplify Expressions*

Simplify: $4x - 3(2x + 5)$

Simplify: $14m - 3n + 15m + 7n$

5) *Multi-Step Equations*

Solve: 5x - 7 = 7x - 13

6) *Translate Expressions*

Write in math:

Seven more than the product of four and a number.

Solve:

Six times a number is three less than thirty-nine.

7) *Fraction Busters*

Solve: $\frac{2}{7}x + \frac{10}{3} = \frac{3}{21}$

8) *Proportions:*

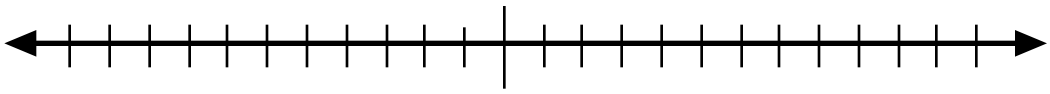
Solve:

$$\frac{7}{x-4} = \frac{42}{12}$$

7 monkeys eat 42 slices of bacon. How many slices would 21 monkeys eat?

9) *Inequalities:*

Graph: $4x - 8 \geq 12$



10) *Single Variable Word Problems*

Mr. Klein is three times older than Mr. Meyer. Together they are 88 years old. How old are each of them?

Meyer Klein

11) *Rules of Exponents*:

a) $(5m^2n^5)^2$

b) $(ab^2)(a^5b)(b^7a)(ab)$

c) $\dfrac{35x^3y^7}{7x^8y^4}$

d) 4^{-3}

(a) (b)

(c) (d)

12) *Descending Order*:

Arrange in descending order: $5x^3 - 2x^5 + x^7 - 3x$

13) *Polynomial Ops:*

Add: $(2x^2 - 5x + 3) + (3x^2 + 7x - 5)$

Subtract: $(7x^2 - 5x + 8) - (5 + 2x^2 - 7x)$

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14) *Polynomial Multiplication:*

Multiply: $(2x + 3)(x^2 - 3x + 4)$

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15) Polynomial Factors*:*

Factor: $12b^7 + 9b^2 - 27b^{10} + 9b^5$

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16) *Solving Polynomials*:

Solve: $x^2 + 13x + 40 = 0$

17) *Scientific Notation:*

Write in scientific notation:

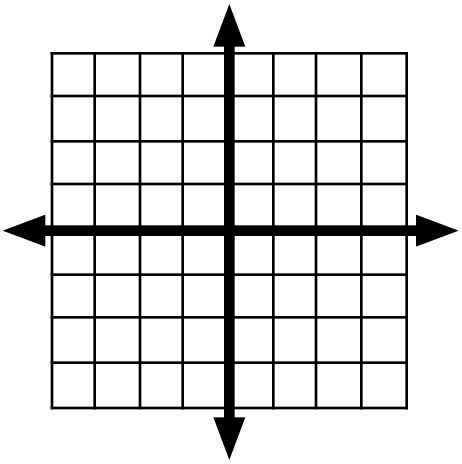
.00000047592038127 3

Write in standard notation:

5.94×10^{-6}

18) *Graphing Lines*

Graph: **y = 2x - 4**

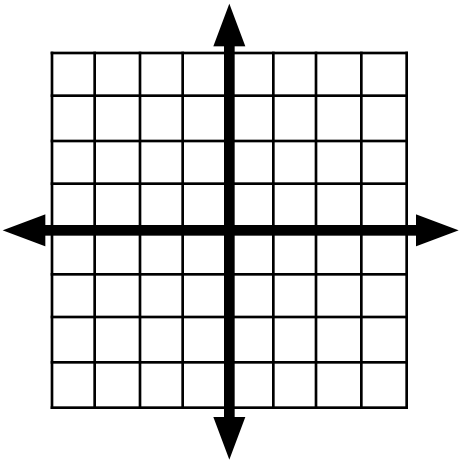


19) *Finding Slope*

What is the slope between the points:

(3,6) and **(1,4)**

Graph the line.



slope

20) *Slope-Intercept Lines*

Find the equation, given:

Slope = -4
Y-Intercept = 3

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21) *Point-Slope Lines*

Find the equation, given:

Point = (4,2)
Slope = -2

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22) *Point-Point Lines*

Find the equation, given:

Point = (2,1)
Point = (8,25)

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23) *Point Test*

Is the point (5,9) on the line $3y - 5x = 2$

24) *Parallel Lines*

Are these lines parallel? *Why?*

$y = 3x - 2$

$y = 4x - 2$

Find a line parallel to: $y = 3x - 4$
that goes through: (1,5)

25) *Perpendicular Lines*

Are these lines perpendicular? *Why?*

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

$y = \frac{5}{2}x - 4$

Find a line perpendicular to: $y = -\frac{3}{4}x - 4$
that goes through: (9,1)

26) *Systems of Equations*

Where do these lines cross?

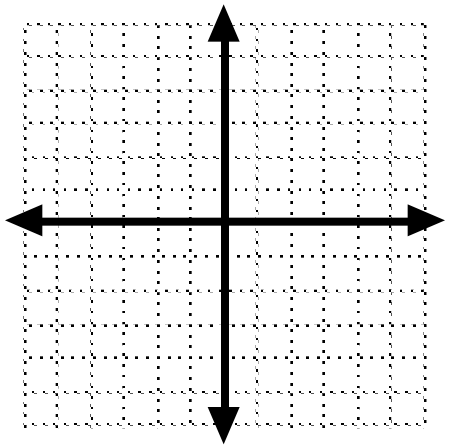
$2y + 7x = 17$

$y = 4x - 14$

27) *Inequality Intersections*

Graph:
You must test one point for each.

y > 4x - 1
y ≥ x - 2



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28) *Linear Word Problems*

The sum of two numbers is 49. Their difference is 19. What are they?

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29) *Completing the Square:*

Solve by completing the square: $x^2 + 7x - 5 = 0$

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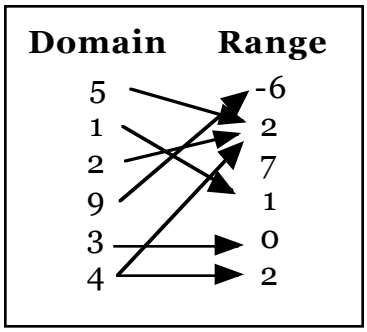
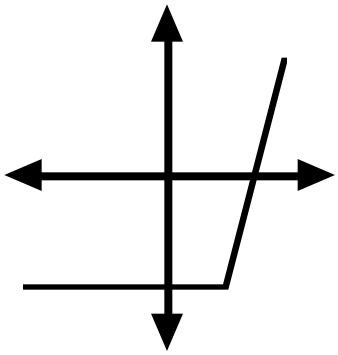
30) *Quadratic Formula:*

Solve using the quadratic formula: $4x^2 - 4x + 1 = 0$

31) *Functions*

Is this a function? Why or why not?





32) *Simplifying Radicals*

$\sqrt{56}$

$\sqrt{80}$

33) *Simplifying Radical Expressions*

$\sqrt{27}+\sqrt{12}$

$3\sqrt{18}-3\sqrt{8}$

34) *Adding/Subtracting Rationals*

$$\frac{x^2+3x}{x^2+9x+14}+\frac{7x+21}{x^2+9x+14}=$$

$$\frac{6x+5}{x+1}-\frac{3x+2}{x+1}=$$

35) *Multiplying/Dividing Rationals*

$$\frac{x-8}{x^2+12x+20}\bullet\frac{x^2+9x+14}{x+7}=$$

$$\frac{x^2+5x+6}{x-1}\div\frac{x+3}{x-1}=$$