

Transitions & Pre-Algebra Comprehensive Final Review

Name _____

Date _____

Period _____

1-1 Write a variable expression for the product of 8 and N

Write a variable expression for a number N increased by 34

Four Function Review:

$$\frac{3}{4} + 2\frac{5}{8} =$$

$$1\frac{3}{4} - \frac{5}{8} =$$

$$\frac{3}{4} \cdot \frac{5}{8} =$$

$$1\frac{3}{4} \div \frac{5}{8} =$$

1-2 Simplify
 $15 + 20 \cdot 3$

$$9 \cdot 6 - 12 \div 2$$

1-3 Evaluate the expression when $x = 12$:
 $3x + 6$

Evaluate the expression when $n = 7$:
 $25 - (n + 18)$

1-4 Compare using $>$, $<$, or $=$
 -12 _____ -9

$$|-4|$$
 _____ $|4|$

1-5 to 6 Simplify
 $80 - (-110)$

$$-8 + (-13) - (24)$$

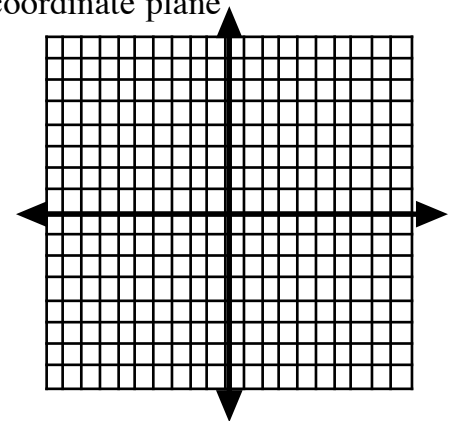
1-9 Simplify

$$-4 \cdot 12 \qquad \frac{-4(-8 + 6)}{-6}$$

$$-1(-2)(-3)(-4) \qquad \frac{120}{-15}$$

1-10 Plot on a coordinate plane

- A $(-2, 6)$
- B $(5, -5)$
- C $(0, 4)$



2-1 Simplify
 $20 \cdot 4 \cdot 5 \cdot 25$

2-2 to 3 Use the Distributive Property to Simplify:

$$3(4y - 1) + 5(7 - y)$$

Identify Property:

$$5+4 = 4+5 \qquad (3 \cdot 2)n = 3(2 \cdot n)$$

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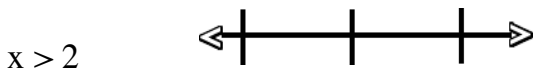
2-4 Write an equation for the sentence below.
Is it *true*...*false*....*open*?

Twice the sum of a number and one is twenty-one

2-5 to 6 Solve $40 + x = 25$ $4N = 84$

$$\frac{B}{-9} = 20$$

2-8 Graph the inequality



2-9 to 10 Solve the inequality

$$-2 > B - 4 \quad -12K \leq -144$$

$$\frac{A}{11} > -22 \quad -5n + 4 \geq 14$$

3-3 Find the Mean, Median, Mode, Range
10, 13, 10, 15, 12, 11, 12, 19, 14

Any Outliers?

4-1 List all the factors
 $45 =$

4-2 Evaluate the expression for $x = -2$
 $-2x^3$

4-3 Label as Prime, Composite, or Neither. If Composite, show factor tree and write the prime factorization:
 $49 =$ $1 =$

$$37 =$$

4-4 Write in simplest form

$$\frac{35x^2y^4}{80x^5y} \quad \frac{x^2}{y^{-5}} \quad \frac{4x^{-3}}{12x^2}$$

4-7 to 8 Simplify
 $8a^2 \cdot 3a^4$ $2(3x^2)^2$

$$12^0 \cdot 12^2 \quad 3^2 \cdot 3^1 \cdot 3^2$$

4-9 Express in Scientific Notation

$$54,100,000,000 =$$

$$0.00000034 =$$

5-2 Write as a decimal

$$7\frac{3}{5} \quad \frac{17}{3}$$

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<p>Write as a fraction 8.75 $3\overline{6}$</p>	<p>7-1 to 5 Solve $10 - 5x = 15$</p>
<p>5-9 Simplify $(8a^3)^2$ $\left(\frac{2c}{d^3}\right)^2$</p>	<p>$8 = 3(c + 8)$</p> <p>$\frac{3}{5}p + 18 = 24$</p>
<p>6-5 Write the percent as a fraction in simplest form 240% 5%</p>	<p>$\frac{1}{4}(x - 8) = \frac{3}{4}x$</p>
<p>6-8 Find the percent change (write increase or decrease) from 120 to 80 from \$40 to \$100 Owned 15 cars last year, now owns 12</p>	<p>7-6 Solve $-5(a - 3) \leq 45$</p> <p>7-7 $R \cdot T = D$ (Rate • Time = Distance)</p> <p>Race car is traveling at a rate of 200 mph. If the car has unlimited fuel, in how much time will it have traveled 700 miles?</p> <p>A bike rider leaves home riding at 10 mph. An hour later, another rider leaves from the same home riding at 15 mph and tries to catch the first rider. How long will it take the second rider to catch the first?</p> <p>Train A is traveling west at 10 mph faster than Train B which is traveling east. Both left the station at the same time. In 5 hours they will be 900 miles apart. How fast is each train traveling?</p>
<p>6-9 Find the sale price Reg. Price = \$100 with 20% discount</p> <p>Find the percent discount Reg. Price = \$80. Sale Price = \$60</p> <p>Find the Markup from the Cost Cost = \$60 with Selling Price = \$105</p>	

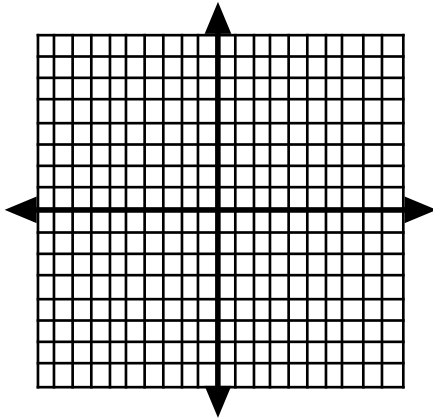
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7-8 Solve for Simple Interest ($I = PRT$)

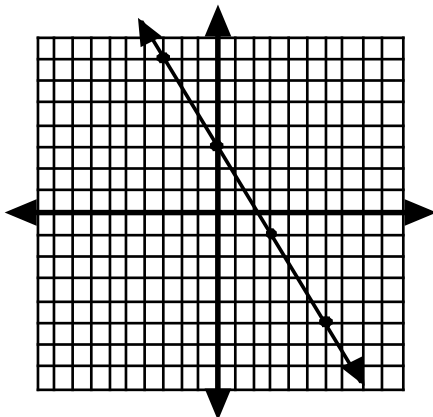
\$450 deposited at 2% for 4 years

8-3 Find the Slope and y-intercept
 $y = 5x - 4$ $2y = 3x + 12$

Graph each line



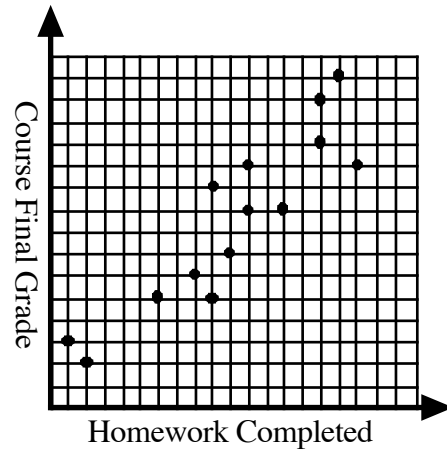
8-3 Write the equation of the graphed line



8-4 Given the Table of Values, plot the points above & write a rule (equation of the line)

x	-2	0	2	4
y	-6	4	14	24

8-5 Explain/Describe the correlation shown in the scatterplot:

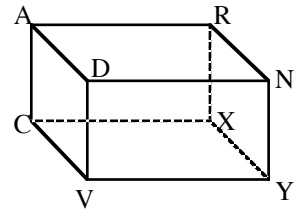


9-1 Name a line parallel, skew, and intersecting \overleftrightarrow{DN}

P =

S =

I =



9-5 If $\triangle XYZ \cong \triangle STU$, then name the:
 side congruent to \overline{YZ}
 angle congruent to $\angle YZX$

10-1 to 2 Draw and Find the area of:

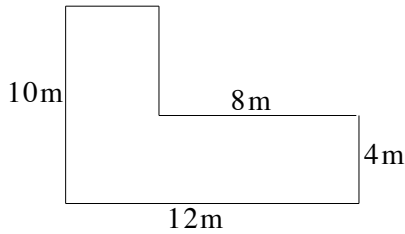
rectangle with sides of 10m & 4m

right triangle with equal 6m legs

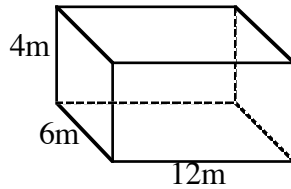
trapezoid with top of 10m, bottom of 16m, and height of 4m

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10-3 Finding Non-Standard Areas
Calculate the area:



10-5 to 9 Find the Surface Area and Volume



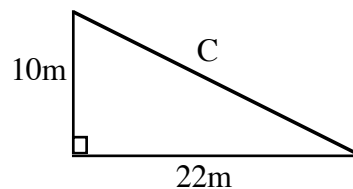
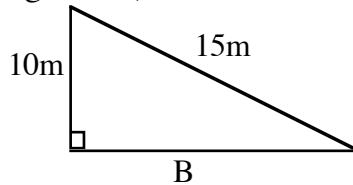
11-1 Simplify the Square Root
 $\sqrt{81}$ $\sqrt{400}$

Estimate to the nearest integer (*which two perfect squares is it between*)
 $\sqrt{50}$

Which is Rational? Irrational?
 $\sqrt{121}$ $\sqrt{6}$

$14.\bar{3}$ 5.1862497...

11-2 Find the missing sides (use $A^2 + B^2 = C^2$)



Does this represent a right triangle?
6cm, 8cm, 10cm

12-1 to 12-4 Box and Whisker Plots

Arrange the data, find the median-lower quartile-upper quartile, and whiskers

10, 11, 12, 12, 11, 11, 13, 11, 12

order: _____



median =
lower quartile =
upper quartile =

12-2 Stem & Leaf Plots

Make a Stem & Leaf Plot from the data below:

21, 25, 16, 31, 16, 17, 21, 8, 21

13-1 to 3 Which is a Parabola?
Which is a Linear Equation?

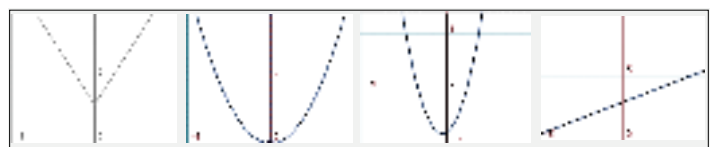
A. $y = 2x^2 + x - 4$

B. $y = \frac{1}{2}x^2$

C. $y = \frac{1}{2}x + 3$

D. $y = 2|x| + 3$

Match to the correct graph:



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Make a Table of Values for

$$y = 2x^2 + x - 4$$

x	$2x^2 + x - 4$	y
-2		
0		
2		

13-5 to 6

Simplify

$$x^3 \cdot x^5 \cdot x^2$$

$$2x^3 \cdot 3x^5 \cdot 2x^2$$