Review from Math 1 PRACTICE PROBLEMS!!!!

Name_____

DIRECTIONS: Write the correct answer and work to each question, if you got it correct leave it blank.

Date _____

1) Fractions:

a. $\frac{1}{3}+\frac{5}{6}-\frac{1}{2}$

b. $\frac{1}{3}\left(\frac{2}{5}\right)$

c. $\frac{1}{3}\div\frac{4}{5}$

Evaluate each expression.

1) $\frac{5}{4}-\frac{3}{4}$

2) $\frac{3}{2}-\frac{1}{2}$

3) $\frac{2}{5}+\frac{4}{5}$

4) $\frac{1}{3}-\frac{1}{3}$

Find each product.

1) $-\frac{5}{4}\cdot\frac{1}{3}$

2) $\frac{8}{7}\cdot\frac{7}{10}$

3) $\frac{4}{9}\cdot\frac{7}{4}$

4) $-\frac{2}{3}\cdot\frac{5}{4}$

Find each quotient.

11) $\frac{-1}{5}\div\frac{7}{4}$

12) $\frac{-1}{2}\div\frac{5}{4}$

13) $\frac{-3}{2}\div\frac{-10}{7}$

14) $\frac{1}{2}\div\frac{8}{7}$

2) ADD, Subtract & Multiplying Polynomials

a. $(3x^5 - 3) - (x^5 + 3x^4 - 8)$ b. $(2x^2)(3x^2 + x - 4)$ c. $(x - 4)(2x + 3)$

Simplify each expression.

1) $(5 + 5n^3) - (1 - 3n^3)$

2) $(6a - 3a^2) + (2a^2 - 3a)$

3) $(x^2 - x) + (8x - 2x^2)$

4) $(2a^2 + 4a^3) - (3a^3 + 8)$

5) $(5x^2 + 4) - (5 + 5x^3)$

6) $(8n^2 - 2n^3) + (6n^3 - 8n^2)$

7) $7x(6x + 4y)$

8) $4a(8a - 8b)$

9) $3n(n^2 - 6n + 5)$

10) $2k^3(2k^2 + 5k - 4)$

11) $(4n + 4)(5n - 8)$

12) $(5x - 2)(5x - 8)$

13) $(6x + 2)(2x + 8)$

14) $(3x + 3)(x + 4)$

3) Exponents

a. $\frac{x^2y}{x^3z}$ b. $(2x^2y^3z)^3$ c. $\frac{-2x^{-3}y}{3wy}$

13) $7v^3 \cdot 10u^3v^5 \cdot 8uv^3$

14) $9xy^2 \cdot 9x^5y^2$

15) $6m^3n^3 \cdot 8m^2n^3$

16) $6x^2 \cdot 6x^3y^4$

15) $\frac{11u^4}{17u^7v^9}$

16) $\frac{4y^4}{14yx^8}$

17) $\frac{12yx^4}{10yx^8}$

18) $\frac{18x^8y^8}{10x^3}$

3) $(n^3)^3 \cdot 2n^{-1}$

4) $(2v)^2 \cdot 2v^2$

5) $\frac{2x^2y^4 \cdot 4x^2y^4 \cdot 3x}{3x^{-3}y^2}$

6) $\frac{2y^3 \cdot 3xy^3}{3x^2y^4}$

4) Order of Operations

a. $9 + 6 \div (8 - 2)$ b. $4(4 \div 2 + 4)$ c. $8 \times \frac{15}{5} - (5 + 9)$

9) $20 \div (4 - (10 - 8))$

10) $40 \div 4 - (5 - 3)$

11) $9 + 9 + 6 - 5$

12) $(5 + 16) \div 7 - 2$

13) $7 + 10 \times 5 + 10$

14) $(6 + 25 - 7) \div 6$

19) $\dfrac{27}{2 + 3 + 4} + 3$

20) $\dfrac{45}{8(5 - 4) - 3}$

21) $8 \times \dfrac{15}{5} - (5 + 9)$

22) $2 \times 7 - \dfrac{10}{9 - 4}$

5) Evaluating Expressions

a. $y + z + 2, When\ y = -6\ and\ z = 5$

b. $y - (z + z^2), When\ y = 10\ and\ z = 2$

c. $x(z + 3) + 1 + 3 - y, When\ x = 6, y = -5\ \ and\ z = 2$

7) $z(x + y)$; use $x = 6$, $y = 8$, and $z = 6$

8) $x + y + y$; use $x = 9$, and $y = 10$

9) $p^3 + 10 + m$; use $m = 9$, and $p = 3$

10) $6q + m - m$; use $m = 8$, and $q = 3$

11) $p^2m \div 4$; use $m = 4$, and $p = 7$

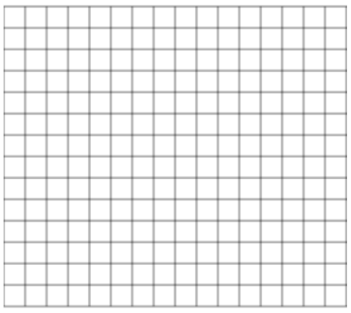
12) $y - (z + z^2)$; use $y = 10$, and $z = 2$

13) $z - (y \div 3 - 1)$; use $y = 3$, and $z = 7$

14) $(y + x) \div 2 + x$; use $x = 1$, and $y = 1$

6) Linear Equations

a. Identify the slope and the y intercept, then graph the line $y = -\frac{3}{2}x + 5$



Slope _____ y-intercept_____

b. Create an equation in slope intercept for a line Parallel to $y = -2x$ and going through the point (1,0).

c. Find the equation for a line going through (8, 2) and (12, -2).

Write the slope-intercept form of the equation of each line.

1) $3x - 2y = -16$

2) $13x - 11y = -12$

Write the standard form of the equation of the line through the given point with the given slope.

9) through: $(1, 2)$, slope $= 7$

10) through: $(3, -1)$, slope $= -1$

Write the point-slope form of the equation of the line described.

17) through: $(4, 2)$, parallel to $y = -\frac{3}{4}x - 5$

18) through: $(-3, -3)$, parallel to $y = \frac{7}{3}x + 3$

Write the standard form of the equation of the line through the given points.

17) through: $(-3, 2)$ and $(0, -1)$

18) through: $(0, 4)$ and $(-1, -1)$

7) Factoring a Quadratic when a=1

a. $(4x^2 - 12x)$ b. $x^2 + 4x - 5$ c. $2x^2 - 6x + 4$

1) $(2x^2 - 6x)$ 2) $(x^2 - x)$

1) $b^2 + 8b + 7$ 2) $n^2 - 11n + 10$

3) $m^2 + m - 90$ 4) $n^2 + 4n - 12$

5) $n^2 - 10n + 9$ 6) $b^2 + 16b + 64$

15) $2n^2 + 6n - 108$ 16) $5n^2 + 10n + 20$

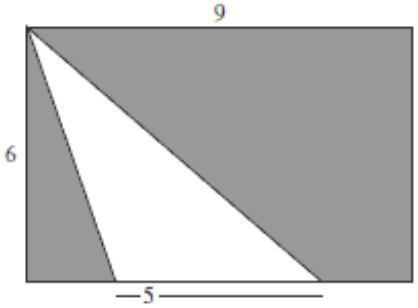
17) $2k^2 + 22k + 60$ 18) $a^2 - a - 90$

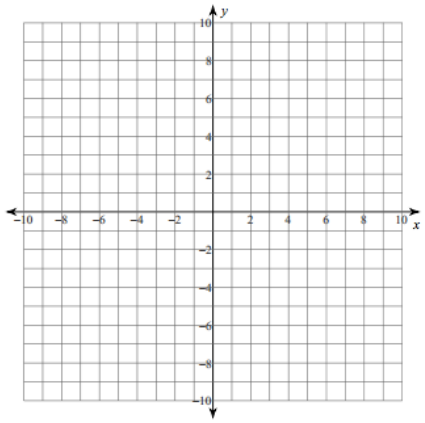
8) Geometry Formulas

a. Find the distance between (-2, 3) and (0, -5), leave answer as a radical

b. Find the midpoint of (-2, 3) and (0, -5)

c. Find the area of the shaded region





Plot each point.

1) $J(5, 10)$ $I(1, 9)$ $H(6, -9)$
$G(-6, 8)$ $F(9, 0)$ $E(-6, 0)$
$D(-8, -4)$ $C(5, 0)$ $B(-1, -1)$
$A(-8, -1)$

Find the midpoint of the line segment with the given endpoints.

9) $(-4, 4), (5, -1)$

10) $(-1, -6), (-6, 5)$

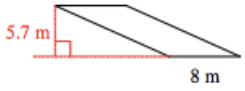
Find the distance between each pair of points. Round your answer to the nearest tenth, if necessary.

7) $(-2, 3), (-7, -7)$

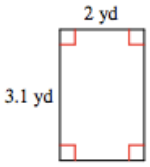
8) $(2, -9), (-1, 4)$

Find the area of each figure.

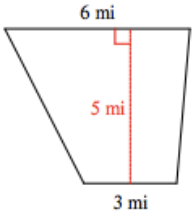
3)



4)



5)



6)