

Aim: Review for 1st Quarterly

Graded Assignment:

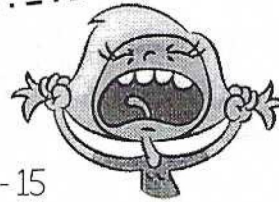
Enough Already Nhots!!



Name: Key

Nov. 8 - Alg. 1H

Glue on page 10 & show work on pages 11 - 15



Objective: Review for test 1, Friday, 11/17. Due Wednesday, 11/15.

1. Chris is 26 years old and Jack is 12 years old. In how many years will Chris be twice as old as Jack will be then?

| | Present Age | <u>Future</u> Age |
|-------|-------------|----------------------|
| Chris | 26 | $\rightarrow 26 + x$ |
| Jack | 12 | $\rightarrow 12 + x$ |

2. Express $\frac{3\sqrt{75} + \sqrt{27}}{3}$ in simplest radical form.

3. The sum of two numbers is 55. The larger number is 7 more than twice the smaller number. What are the numbers?

4. Samantha has \$4.70 in nickels and quarters. In all, she has 30 coins in her wallet. Find the number of each kind of coin she has.

| | Value | Amount | Total |
|----------|-------|----------|----------------|
| nickels | 5 | x | $= 5x$ |
| quarters | 25 | $30 - x$ | $= 25(30 - x)$ |

5. A truck and a car leave Inversetown at the same time and travel in opposite directions. The car travels at 75 miles per hour and the truck travels at 60 miles per hour. After how many hours will they be 405 miles apart?

| | Rate | Time | Distance |
|-------|------|------|----------|
| car | 75 | x | $= 75x$ |
| truck | 60 | x | $= 60x$ |

6. The length of a rectangle is 3 inches more than its width. If the length is decreased by 5 and the width is increased by 1 inch, the perimeter of the rectangle is 46 inches. What is the length, in inches, of the original rectangle?

7. Write an equation of a line that passes through the points $(-4, -2)$ and $(-4, 8)$. Write the equation in standard form, point-slope form, and slope-intercept form.

8. Simplify: $\frac{5}{6}\sqrt{108} - 12\sqrt{48}$

9. Simplify: $\sqrt{\frac{21}{20}} \cdot \sqrt{\frac{10}{9}}$

10. Solve: $0.6(p - 3) = 0.9p + 1.6 - 0.1p$

11. Solve for x in the equation: $8 + 2(3x + 9) = 6x - 10$

12. Which is an illustration of the associative property?

- A.) $ab = ba$ commutative
- B.) $a(b + c) = ab + ac$ distributive
- C.) $a(bc) = (ab)c$ associative
- D.) $a + 0 = a$ identity

13. Destiny has some coins in her pocket consisting of nickels, dimes, and quarters. She has two more nickels than dimes, and three times as many quarters as nickels. How many of each coin does she have if the total value is \$3.40?

| | Value | Amount | Total |
|----------|-------|------------|----------------|
| nickels | 5 | $x + 2$ | $= 5(x + 2)$ |
| dimes | 10 | x | $= 10x$ |
| quarters | 25 | $3(x + 2)$ | $= 25(3x + 6)$ |

$3x + 6$

14. Solve for n : $\frac{4n}{5n+7} = \frac{2}{3}$

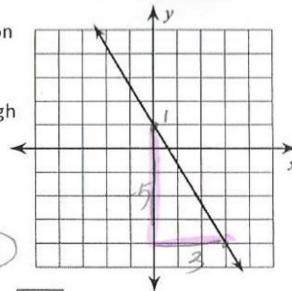
15. Solve for x : $\frac{1}{3}(4x - 2) - 2x = 4 - \frac{2}{5}x$

16. Describes the graph of $x = 4$. What type of slope does it have? Is it parallel to the y -axis or x -axis?

17. What is an equation of the line that passes through the point $(-2, 3)$ and is parallel to the line whose equation is $-3x + 2y = -6$?

18. What is the multiplicative inverse of $-5a$?

19. Write the equation of the line that is shown on the graph.



20. Write an equation of a line that passes through the points $(-1, -2)$ and $(3, 10)$.

21. If $2n$ represents an even integer, the next consecutive even integer is represented by

- A. $4n$
- B. $n + 2$
- C. $2n + 1$
- D. $2n + 2$

22. Find the area of a rectangle with a width of $2\sqrt{12x^2}$ and a length of $4\sqrt{18x^3}$.

23. Solve for the system of equations by graphing:

$-6x + y = 4$

$-y - 2x = 4$

$$\begin{array}{r} -6x + y = 4 \\ +6x + 2x = 4 \\ \hline y + 2x = 4 \end{array}$$

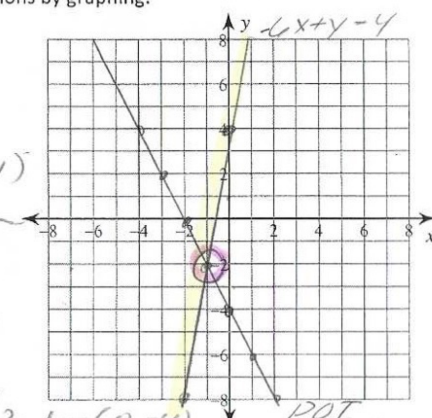
$$y = -2x + 4$$

 $m = -2, b = (0, 4)$

$$\begin{array}{r} -y - 2x = 4 \\ +2x + 2x = 4 \\ \hline -y = 2x + 4 \end{array}$$

$$y = -2x - 4$$

 $m = -2, b = (0, -4)$



24. Convert 564,900 seconds into days

25. Three brothers have ages that are consecutive odd integers. The difference between the age of the oldest and twice the age of the youngest is twenty-four less than the middle brother's age. Find their ages.

26. Convert 60 miles per hour into meters per second.

27. Convert 53 yards per hour into inches per week.

Enough Already Notes

Solve problems

* There are diff ways to

$$\begin{aligned}
 1.) \quad 2(\text{young}) &= \text{old} \\
 2(12+x) &= 26+x \\
 24+2x &= 26+x \\
 \underline{-24 \quad -24} & \\
 2x &= 2+x \\
 \underline{-x \quad -x} & \\
 x &= 2 \text{ years}
 \end{aligned}$$

$$\begin{aligned}
 4.) \quad 5x + 25(30-x) &= 470 \\
 5x + 750 - 25x &= 470 \\
 -20x + 750 &= 470 \\
 \underline{-750 \quad -750} & \\
 -20x &= -280 \\
 \underline{-20 \quad -20} & \\
 x &= 14
 \end{aligned}$$

ans: $x = 14$
 nickels = 14
 quarters = 16

$$\begin{aligned}
 2.) \quad & \frac{3\sqrt{75} + \sqrt{27}}{3} \\
 \text{simplify} & \\
 \text{numerators} & \\
 \text{1st} & \\
 & 3\sqrt{25 \cdot 3} + \sqrt{9 \cdot 3} \\
 & 3 \cdot 5\sqrt{3} + 3\sqrt{3} \\
 & 15\sqrt{3} + 3\sqrt{3} \\
 & 18\sqrt{3}
 \end{aligned}$$

$$\begin{aligned}
 5.) \quad 75x + 60x &= 405 \\
 135x &= 405 \\
 \underline{135 \quad 135} & \\
 x &= 3
 \end{aligned}$$

simplify $6\sqrt{3}$

ans: $6\sqrt{3}$

ans: $x = 3$
 in 3 hrs

$$\begin{aligned}
 3.) \quad \text{Let smaller \#} &= x = 16 \\
 \text{larger \#} &= 2x + 7 = 39
 \end{aligned}$$

$$\begin{aligned}
 x + 2x + 7 &= 55 \\
 3x + 7 &= 55 \\
 \underline{-7 \quad -7} & \\
 3x &= 48 \\
 \underline{3 \quad 3} & \\
 x &= 16
 \end{aligned}$$

$$2(16) + 7 = 39$$

ans: x width = 10 in
 length = 15 in

| | |
|-------|-------|
| orig. | $x+3$ |
| new | $x+1$ |

$$\begin{aligned}
 P &= 2L + 2W \\
 46 &= 2(x-2) + 2(x+1) \\
 46 &= 2x - 4 + 2x + 2 \\
 46 &= 4x - 2 \\
 \underline{+2 \quad +2} & \\
 48 &= 4x \\
 \underline{4 \quad 4} & \\
 12 &= x
 \end{aligned}$$

$$7.) \begin{array}{c|c} x & y \\ \hline -4 & -2 \\ -4 & 8 \end{array} \Delta y$$

$$m = \frac{\Delta y}{\Delta x} = \frac{10}{0}$$

vertical line

undefined "no slope" 1 equation

equation: $x = -4$

* multiply by 10 to get rid of the decimal

$$10 [0.6(p-3) = 0.9p + 1.6 - 0.1p]$$

$$6(p-3) = 9p + 16 - 1p$$

$$6p - 18 = 8p + 16$$

$$-6p \quad -6p$$

$$-18 = 2p + 16$$

$$-16 \quad -16$$

$$\frac{-34}{2} = \frac{2p}{2}$$

$-17 = p$

$$8.) \frac{5\sqrt{108} - 12\sqrt{48}}{6}$$

$$\frac{5\sqrt{36 \cdot 3} - 12\sqrt{16 \cdot 3}}{6}$$

$$\frac{5 \cdot 6\sqrt{3} - 12 \cdot 4\sqrt{3}}{6}$$

$$5\sqrt{3} - 48\sqrt{3}$$

$-43\sqrt{3}$

11.)

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

$$8 + 6x + 18 = 6x - 10$$

$$6x + 26 = 6x - 10$$

$$-6x \quad -6x$$

$26 \neq -10$
no solution

$$9.) \sqrt{\frac{21^7}{2^2}} \cdot \sqrt{\frac{10^1}{3}} = \sqrt{\frac{7}{6}} \text{ split}$$

$$= \frac{\sqrt{7} \cdot \sqrt{6}}{\sqrt{6} \cdot \sqrt{6}}$$

$\frac{\sqrt{42}}{6}$

rationalize to get rid of the $\sqrt{\quad}$

12.) C

$$13.) 5x(2) + 10x + 25(3x+6) = 340$$

$$5x + 10 + 10x + 75x + 150 = 340$$

$$90x + 160 = 340$$

$$-160 \quad -160$$

$$90x = 180$$

$$\frac{90x}{90} = \frac{180}{90}$$

$x = 2$

nickels = 4
dimes = 2
quarters = 12

14) $\frac{4n}{5n+7} = \frac{2}{3}$
 cross multiply

$3(4n) = 2(5n+7)$
 $12n = 10n + 14$
 $-10n - 10n$
 $2n = 14$
 $\frac{2n}{2} = \frac{14}{2}$

$n = 7$

18) $-\frac{1}{5a}$

19) $m = -\frac{5}{3}$

$b = 1$
 $y = -\frac{5}{3}x + 1$

15) $\frac{1}{3}(4x-2) - \frac{2x}{1} = \frac{4-2x}{1}$
 mult. by LCM 15

$5(4x-2) - 15(2x) = 15(4) - 6x$
 $20x - 10 - 30x = 60 - 6x$
 $-10x - 10 = 60 - 6x$
 $+6x +6x$
 $-4x - 10 = 60$
 $+10 +10$
 $-4x = 70$
 $-4 -4$

$x = -17.5$

16) The graph of $x = 4$ is an undefined slope. It is parallel to the y-axis. It is a vertical line.

17) $-3x + 2y = -6$
 $+3x +3x$
 $2y = 3x - 6$
 $\frac{2y}{2} = \frac{3x-6}{2}$

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

$m = \frac{3}{2}$ → parallel same slope

x, y
 $(-2, 3)$
 $y - 3 = \frac{3}{2}(x + 2)$
 $y - 3 = \frac{3}{2}x + 3$
 $+3 +3$

$y = \frac{3}{2}x + 6$

$$20.) \begin{array}{c|c} x & y \\ \hline -1 & -2 \\ 3 & 10 \end{array} \begin{array}{l} \Delta y \\ +12 \end{array}$$

$$m = \frac{\Delta y}{\Delta x} = \frac{12}{4} = 3$$

point \rightarrow
slope

$$y - 10 = 3(x - 3)$$

$$y - 10 = 3x - 9$$

$$+10 \quad +10$$

$$y = 3x + 1$$

21) choice d

$$22.) A = lw$$

$$\text{Area} = (2\sqrt{12x^2})(4\sqrt{18x^3})$$

$$8\sqrt{216x^5}$$

$$8\sqrt{36 \cdot 6 \cdot x^4 \cdot x}$$

$$8 \cdot 6x^2 \sqrt{6x}$$

$$48x^2 \sqrt{6x}$$

$$24.) \frac{(564,900 \text{ sec})}{1} \left(\frac{1 \text{ min}}{60 \text{ sec}} \right) \left(\frac{1 \text{ hr}}{60 \text{ min}} \right) \left(\frac{1 \text{ day}}{24 \text{ hr}} \right)$$

$$= \frac{564,900}{86,400}$$

$$= 6.5 \text{ days}$$