Integrated Math **Name:** Key

Unit 1 Test Review Worksheet

1. What is the perimeter of triangle PQR with vertices at (-2,3), (0,-5), and (3, -2)

$\sqrt{(-2-0)^2+(3+5)^2}$ $\sqrt{4+64}$ $\sqrt{68}$ $\sqrt{9+9}$ $\sqrt{18}$ $\sqrt{25+25}$ $\sqrt{50}$ 19.6

$\sqrt{(0-3)^2+(-5+2)^2}$

$\sqrt{(-2-3)^2+(3+2)^2}$

2. Henry opened a savings account by depositing \$150. He also signed an automatic draft agreement to have \$125 deposited directly from his pay check each month. If x is the number of months that has passed since Henry opened the account, which of the following shows how long it will take Henry to have \$1000?

   a. $150 + 125x = 1000$
   b. $150x + 125 = 1000$
   c. $(150 + 125)x = 1000$
   d. $150 + 125(12x) = 1000$

$16+6x=4$
-16
$6x=-12$
$x=-2$

3. Sixteen increased by six times a number is 4. Find the number. $x=-2$

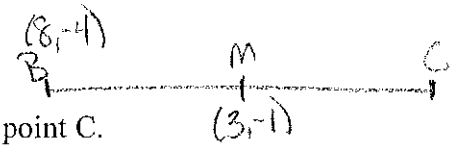
4. Solve for h: $A = bh$ $h=\frac{A}{b}$

5. What is the difference of the following expression?

$(5x^2 - 4x - 8) - (3x^2 + 5 - 6x)$?

   a. $2x^2 - 9x - 2$
   b. $8x^2 - 2x - 3$
   c. $2x^2 + 2x - 13$
   d. $8x^2 - 10x - 3$

$5x^2-4x-8-3x^2-5+6x$
$2x^2+2x-13$



6. The midpoint of line BC is (3,-1). The point B is (8,-4). Find point C.

   a. (-2,2) b. (2,2) c. (-2, 6) d. (2.5, -2.5)

$\frac{8+x}{2}=3$ $\frac{-4+y}{2}$
$8+x=6$ $-4+y=-2$
$x=-2$ $y=2$

7. Solve: $5x + 4 = 2(13 - 3x)$ $x=2$

$5x+4=26-6x$
$11x=22$
$x=2$

8. Solve for E: $R = \frac{E}{I}$ $E=R\cdot I$

$\left(\frac{2+-3}{2}, \frac{-9+4}{2}\right) \rightarrow \frac{-1}{2}, \frac{-5}{2}$

9. What is the midpoint of (2, -9) and (-3, 4)? $(-1/2, -5/2)$

10. Simplify: $2-5(4x-1)$ $-20x+7$

$2-20x+5$
$-20x+7$

11. Solve for x: $15 \geq 3-2x$ $x \geq -6$

$15 \geq 3-2x$
$12 \geq -2x$
$-6 \leq x$
$x \geq -6$

12. Find three consecutive integers whose sum is 36.

x
$x+1$
$x+2$

$x+x+1+x+2=36$
$3x+3=36$
$3x=33$
$1x=11,12,13$

$3-2x>15$
$-2x>12$
$x<-6$

13. Solve for x: $3-2x>15$

$x<-6$

14. Simplify: $(3x^2-3x+1)+(2x^2+2x-9)$

$5x^2-x-8$

15. Solve for h: $V=\pi r^2 h$

$h=\frac{V}{\pi r^2}$

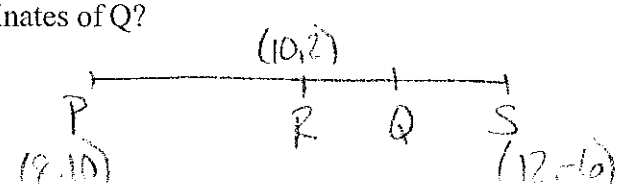
16. What is the distance between the point (-3, 4) and the origin?

a. $\sqrt{5}$
b. $\sqrt{7}$
c. 5
d. 25

$\sqrt{(-3-0)^2+(4-0)^2}$
$\sqrt{9+16}$
$\sqrt{25}$

17. R is the midpoint of segment PS. Q is the midpoint of segment RS. P is located at (8,10) and S is located at (12, -6). What are the coordinates of Q?

a. (4,2)
b. (2,-8)
c. (11, -2)
d. (10,2)



$\frac{20}{2}, \frac{4}{2}$
$10, 2$

$\frac{22}{2}, \frac{-12}{2}$
$11, -2$

18. Solve for w: $15 = -30 - 2w$

$45=-2w$
$w=-\frac{45}{2}$

$W=\frac{-45}{2}$

19. The sum of two consecutive even integers is 106. Find the largest integer.

x
$x+2$

$x+x+2=106$
$2x=104$
$x=52, 54$

54

20. In Chapel Hill there are two tutoring companies, Smarty-Pants and Nerds-R-Us. If x represents how many hours they tutor, the charges for Smarty-Pants are represented by the function f(x) = 50 + 10x. Nerds-R-Us charges are represented by the function f(x) = 40 + 20x.

a. For how many hours would the two companies charge the same amount?

$50+10X=40+20X$
$10=10X$
$X=1$

X = 1 hour

b. Write a function that represents the total cost for both tutoring companies tutoring for x hours.

$50+10X+40+20X$
$90+30X$

T = 90+30X

c. Write a function that represents the difference in cost for the two companies tutoring for x hours.

$(50+10X)-(40+20X)$
$10-10X$

D = -10X +10