17. Nicole's aerobics class exercises to fast-paced music. If the rate of the music is 120 beats per minute, how many beats would there be in a class that is 0.75 hour long?

A. 90

B. 160

C. 5,400

D. 7,200

$\frac{120 \text{ beats}}{\text{min.}} (45 \text{ min.}) = 5400 \text{ beats}$

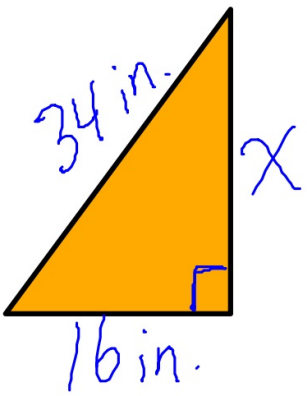
18. The length of the hypotenuse of a right triangle is 34 inches and the length of one of its legs is 16 inches. What is the length, in inches, of the other leg of this right triangle?

A. 16

B. 18

C. 25

D. 30



$x^2 + 16^2 = 34^2$

$x^2 + 256 = 1156$

$-256 \quad -256$

$x^2 = 900$

$x = 30$

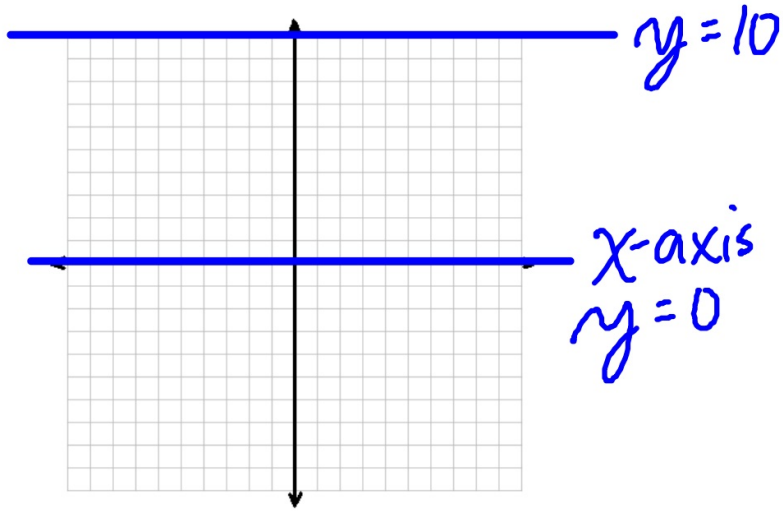
19. Which equation represents a line parallel to the x-axis?

A. $x = 5$

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

B. $y = 10$

D. $y = 5x + 17$



20. Sam and Odel have been selling frozen pizzas for a class fundraiser. Sam has sold half as many pizzas as Odel. Together they have sold a total of 126 pizzas. How many pizzas did Sam sell?

A. 21

C. 63

B. 42

D. 84

Sam $= \frac{1}{2}p$

Odel $= p$

Note: This stands for the # of pizzas sold by Odel.

$\frac{1}{2}p + p = 126$

$\frac{3}{2}p = 126$

$\frac{2}{3}\cdot\frac{3}{2}p = 126\cdot\frac{2}{3}$

$p = 84$

21. Which ordered pair is in the solution set of the system of equations $y = -x + 1$ and $y = x^2 + 5x + 6$?

A. $(-5, -1)$

B. $(-5, 6)$

C. $(5, -4)$

D. $(5, 2)$

$y = 56$

$y = (-5)^2 + 5(-5) + 6 =$

$25 - 25 + 6 = 6$

$-x + 1 = x^2 + 5x + 6$

$+x - 1 \quad +x - 1$

$0 = x^2 + 6x + 5$

$0 = x^2 + 6x + 5$

$0 = (x+5)(x+1)$

$0 = x+5$ or $0 = x+1$

$x = -5$ or $x = -1$

$y = 6$

22. Which statement is true about the data set [3, 4, 5, 6, 7, 7, 10]?

A. Mean = Mode

B. Mean > Mode

C. Mean = Median

D. Mean < Median

$6 = 6$ (middle #)

Mean (average): $\frac{3+4+5+6+7+7+10}{7} = \frac{42}{7} = 6$

23. Which value of x is in the solution set of the inequality $-4x + 2 > 10$?

A. -2

B. 2

C. 3

D. -4

$16+2>10$

$18>10$ ✓

$-4x+2>10$

$-2 \quad -2$

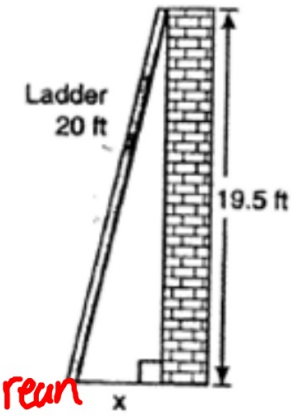
$-4x>8$

$\frac{-4x}{-4} > \frac{8}{-4}$

$x<-2$

The Big Switch because you multiplied by a negative on both sides.

24. Don placed a ladder against the side of his house as shown in the diagram below.



Which equation could be used to find the distance, x, from the foot of the ladder to the base of the house?

A. $x = 20 - 19.5$

B. $x = 20^2 - 19.5^2$

C. $x = \sqrt{20^2 - 19.5^2}$

D. $x = \sqrt{20^2 + 19.5^2}$

Pythagorean Thm.

$x^2 + 19.5^2 = 20^2$

$-19.5^2 \quad -19.5^2$

$\sqrt{x^2} = \sqrt{20^2 - 19.5^2}$

$x = \sqrt{20^2 - 19.5^2}$

25. Which value of x is a solution of

$$\frac{5}{x} = \frac{x+13}{6}?$$

A. -2

B. -3

C. -10

D. -15

Cross-mult.

$x(x+13) = 5 \cdot 6$

$x^2 + 13x = 30$

$-30 \quad -30$

$x^2 + 13x - 30 = 0$

$x^2 + 13x - 30 = 0$

$(x+15)(x-2) = 0$

$x+15 = 0$ or $x-2 = 0$

$x = -15$ or $x = 2$

$\frac{5}{-15} = \frac{-2}{6}$, so $-\frac{1}{3} = -\frac{1}{3}$ ✓