Name:

Notes: Solving Equations

Do Now: Solve for x in each of the equations.

1)
$$2.25(6x - 12) = -18 + 19.5x + 20$$

2)
$$y = mx + b$$

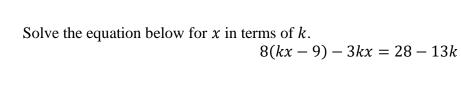
Which value of x satisfies the equation $\frac{5}{6}\left(x + \frac{9}{20}\right) = 36$?

Putting Fractions in the Calculator:

How about....

$$2x - 15 = 2x + 15$$

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



The equation for the volume of a cylinder is $V = \pi r^2 h$. The positive value of r, in terms of h and V, is

Solve for x in the equation,

$$xy + 8xz = 20$$

Classwork: Solving Equations

Solve each of the equations for the variable stated. If no variable stated, solve for x.

1) Solve for
$$H$$
: $B = H + xH$

2)
$$5(0.5x - 1.2) = \frac{5}{2}(x - 2.4)$$

3) *Solve for h*:
$$V = \frac{1}{3}\pi r^2 h$$

4)
$$4[0.3b + (-5)] + 12 = 0.8(2b - \frac{1}{2})$$

5)

The distance a free falling object has traveled can be modeled by the equation $d=\frac{1}{2}at^2$, where a is acceleration due to gravity and t is the amount of time the object has fallen. What is t in terms of a and d?

$$(1) \ t = \sqrt{\frac{da}{2}}$$

(3)
$$t = \left(\frac{da}{d}\right)^2$$

(2)
$$t = \sqrt{\frac{2d}{a}}$$

(4)
$$t = \left(\frac{2d}{a}\right)^2$$

6)

An equation is given below.

$$4(x - 7) = 0.3(x + 2) + 2.11$$

The solution to the equation is

(1) 8.3

 $(3) \ 3$

(2) 8.7

(4) -3

7)

The formula for blood flow rate is given by $F=\frac{p_1-p_2}{r}$, where F is the flow rate, p_1 the initial pressure, p_2 the final pressure, and r the resistance created by blood vessel size. Which formula can not be derived from the given formula?

- (1) $p_1 = Fr + p_2$
- (3) $r = F(p_2 p_1)$
- (2) $p_2 = p_1 Fr$
- (4) $r = \frac{p_1 p_2}{F}$

8) The formula for the area of a triangle is $A = \frac{1}{2}bh$. Express b in terms of A and h.

The area of a triangle is 45 square feet and its height is 3 ft. Find the base of the triangle.