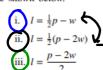
- The formula for electrical power, P, is $P = I^2R$, where I is current and R is resistance. The formula for I in terms of P and R is

- Students were asked to write a formula for the length of a rectangle by using the formula for its perimeter, p = 2l + 2w. Three of their responses are shown below.

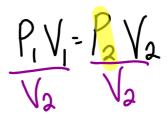


Which responses are correct?

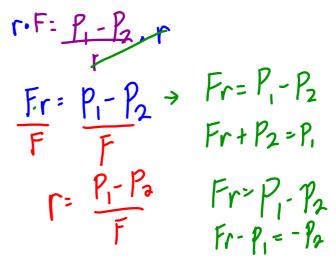
- A. I and II, only
- C. I and III, only
- II and III, only I, II, and III
- P= 21+2w P-2w=2l P-2W=2l = 1p-W=1

Sep 16-11:49 AM

- Boyle's Law involves the pressure and volume of gas in a container. It can be represented by the formula $P_1V_1 = P_2V_2$. When the formula is solved for P_2 , the result is



- 4. 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?



5. Michael borrows money from his uncle, who is charging him simple interest using the formula I = Prt. To figure out what the interest rate, r, is, Michael rearranges the formula to find r. His new formula is r equals

A.
$$\frac{I-P}{t}$$
 B. $\frac{P-I}{t}$ C. $\frac{I}{Pt}$ D. $\frac{P_t}{I}$

6. The formula for converting degrees Fahrenheit (F) to degrees Kelvin(K) is:

$$K = \frac{5}{9}(F + 459.67)$$

Solve for F, in terms of K.

$$\frac{9}{5}K = F + 459.67$$
 $-459.67 - 459.67$
 $\frac{9}{5}K - 459.67 = F$

Sep 16-11:50 AM

7. The formula $F_g = \frac{GM_1M_2}{r^2}$ calculates the gravitational force between two objects where G is the gravitational constant, M_1 is the mass of one object, M_2 is the mass of the other object, and r is the distance between them. Solve for the positive value of r in terms of F_g , G, M_1 , and M_2 .

$$F_{g} = \frac{GM_{1}M_{2}}{r^{2}} \cdot r^{2}$$

$$F_{g} r^{2} = \frac{GM_{1}M_{2}}{r^{2}} \cdot r^{2}$$

8. Using the formula for the volume of a cone, express r in terms of V, h, and n.



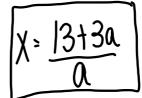
Sep 16-11:51 AM

9. Solve the equation below for x in terms of a.

$$4(ax + 3) - 3ax = 25 + 3a$$

$$\frac{4ax+12-3ax=25+3a}{}$$

$$0 = 13 + 30$$



10. The formula for the sum of the degree measures of the interior angles of a polygon is S = 180(n-2). Solve for n, the number of sides of the polygon, in terms of S.

$$\frac{S=180(n-2)}{180}$$

$$\frac{S}{180} = 10-2$$



Sep 16-11:52 AM

11. Given that a > b, solve for x in terms of a and b:

$$b(x-3) \ge ax + 7b$$

$$\frac{bx = ax + 10b}{-ax - ax}$$

$$\frac{bx - ax}{bx - ax} = \frac{10b}{ba}$$

$$\frac{x(b-a)}{b-a} = \frac{10b}{ba}$$

$$\frac{\chi(b-a)}{b-a} \ge \frac{10b}{b-a}$$