

PR-5 Homework

Wednesday, January 11, 2017
7:40 AM

1. (6, -1) 2. (-3, 8) 3. (-3, 2) 4. (-5, 5) 5. Infinitely Many Solutions
 6. $x = \frac{7y+4}{6}$ 7. $b_1 = \frac{2A}{h} - b_2$ 8. $w = \frac{P-2l}{2}$ 9. $F = \frac{9}{5}C + 32$
 10. $r_1 = \frac{r_2}{r_2 f - 1}$ 11. $L = \frac{M}{1+r}$

CAT Homework PR-5 System of Equations and Literal Equations

Name Key
Date _____ Hour _____

Solve the system of equations. (Elimination or Substitution Methods can be used. You choose)

1) $2x + 5y = 7$
 $-2(x + 4y = 2)$
 $-2x - 8y = -4$
 $2x + 5y = 7$
 $-3y = 3$
 $y = -1$ (boxed)
 $2x + 5(-1) = 7$
 $2x - 5 = 7$
 $2x = 12$
 $x = 6$

2) $3x + y = -1 \rightarrow y = -1 - 3x$
 $2x + 3y = 18$
 $2x + 3(-1 - 3x) = 18$
 $2x - 3 - 9x = 18$
 $-7x = 21$
 $x = -3$
 $y = -1 - 3(-3) = -1 + 9 = 8$
 (-3, 8) (boxed)

3) $5(3x + 2y = -5)$ (-3, 2) (boxed)
 $2(2x - 5y = -16)$
 $15x + 10y = -25$
 $4x - 10y = -32$
 $19x = -57$
 $x = -3$
 $3(-3) + 2y = -5$
 $-9 + 2y = -5$
 $2y = 4$
 $y = 2$

4) $2x - 3y = -25$
 $y = -x + 7$
 $2x - 3(-x + 7) = -25$
 $2x + 3x - 21 = -25$
 $5x = -4$
 $x = -\frac{4}{5}$
 $y = -(-\frac{4}{5}) + 7 = \frac{4}{5} + 7 = \frac{39}{5}$

5) $3x - y = -2$ $y = 3x + 2$ (boxed)
 $-9x + 3y = 6$
 $-9x + 3(3x + 2) = 6$
 $-9x + 9x + 6 = 6$
 $6 = 6$
 $0 = 0$

Infinitely Many Solutions (boxed)

CAT Homework PR-5 System of Equations and Literal Equations

Solve the Literal Equations. Solve for the indicated variable.

6. $6x - 7y = 4$ for x

$$x = \frac{7y + 4}{6} \text{ or } \frac{7y}{6} + \frac{2}{3}$$

8. $P = 2l + 2w$ for w

$$\frac{P - 2l}{2} = \frac{2w}{2}$$

$$\frac{P}{2} - l \text{ or } \frac{P - 2l}{2} = w$$

10. $f = \frac{1}{r_1} + \frac{1}{r_2}$ for r_1 LCD: $r_1 r_2$

Hint: Mult by LCD to get r_1 and r_2 into the numerator

$$r_1 r_2 f = \left(\frac{1}{r_1} + \frac{1}{r_2} \right) r_1 r_2$$

$$r_1 r_2 f = r_2 + r_1$$

$$r_1 r_2 f - r_1 = r_2$$

$$r_1 (r_2 f - 1) = r_2$$

$$r_1 = \frac{r_2}{(r_2 f - 1)}$$

7. $A = \frac{1}{2}(b_1 + b_2)h$ for b_1

$$\frac{2A}{h} = b_1 + b_2$$

$$\frac{2A}{h} - b_2 = b_1$$

9. $C = \frac{5}{9}(F - 32)$ for F

$$\frac{9}{5}C = F - 32$$

$$\frac{9}{5}C + 32 = F$$

11. $M = L + rL$ for L

Hint: factor out L , then solve

$$\frac{M}{1+r} = \frac{L(1+r)}{1+r}$$

$$\frac{M}{1+r} = L$$