

Name: _____

Show work needed to justify your answer.

Date: _____

HW # 57a: Algebra 1 - Standard 37 - Multiply Polynomials by a Monomial

5 points

Solve each equation.

17. $7(t^2 + 5t - 9) + t = t(7t - 2) + 13$

$$\cancel{7t^2} + \underline{35t} - 63 + \underline{t} = \cancel{7t^2} - 2t + 13$$

$$-\cancel{7t^2} \quad -\cancel{7t^2}$$

$$\underline{36t} - 63 = \underline{-2t} + 13$$

$$+2t \quad +2t$$

$$\underline{38t} - 63 = 13$$

$$+63 \quad +63$$

$$\underline{38t} = 76$$

$$\frac{38t}{38} = \frac{76}{38}$$

$$\boxed{t=2}$$

18. $w(4w + 6) + 2w = 2(2w^2 + 7w - 3)$

$$\cancel{4w^2} + \underline{6w} + \underline{2w} = \cancel{4w^2} + 14w - 6$$

$$-\cancel{4w^2} \quad -\cancel{4w^2}$$

$$\underline{8w} = \underline{14w} - 6$$

$$-14w \quad -14w$$

$$\underline{-6w} = \underline{-6}$$

$$-6 \quad -6$$

$$\boxed{w=1}$$

19. $5(4z + 6) - 2(z - 4) = 7z(z + 4) - z(7z - 2) - 48$

$$\underline{20z} + \underline{30} - \underline{2z} + \underline{8} = \cancel{7z^2} + \underline{28z} - \cancel{7z^2} + \underline{2z} - \underline{48}$$

$$\underline{20z} \quad \underline{30} \quad \underline{-2z} \quad \underline{8} \quad \underline{28z} \quad \underline{2z} \quad \underline{-48}$$

$$\cancel{18z} + 38 = \cancel{30z} - 48$$

$$-18z \quad -18z$$

$$38 = 12z - 48$$

$$+48 \quad +48$$

$$\underline{86} = \underline{12z}$$

$$\underline{12} \quad \underline{12}$$

$$\boxed{\frac{43}{6} = z}$$

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Solve each equation.

$$20. 9c(c - 11) + 10(5c - 3) = 3c(c + 5) + c(6c - 3) - 30$$

$$9c^2 - 99c + 50c - 30 = 3c^2 + 15c + 6c^2 - 3c - 30$$

$$\begin{array}{r} 9c^2 - 99c - 30 \\ -9c^2 \quad +50 \\ \hline -49c - 30 \end{array} = \begin{array}{r} 9c^2 + 12c - 30 \\ -9c^2 \quad +30 \\ \hline 12c - 30 \end{array}$$

$$\begin{array}{r} -49c = 12c \\ +49c \quad +49c \\ \hline 0 = 61c \end{array}$$

$$\frac{0}{61} = \frac{61c}{61}$$

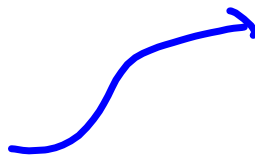
$$\boxed{c=0}$$

$$21. 2f(5f - 2) - 10(f^2 - 3f + 6) = -8f(f + 4) + 4(2f^2 - 7f)$$

$$\begin{array}{r} 10f^2 - 4f - 10f^2 + 30f - 60 \\ \hline 26f - 60 \end{array} = \begin{array}{r} -8f^2 - 32 + 8f^2 - 28f \\ \hline -28f - 32 \end{array}$$

$$\begin{array}{r} 26f - 60 = -28f - 32 \\ +28f \quad +28f \\ \hline 54f - 60 = -32 \end{array}$$

$$\begin{array}{r} 54f - 60 = -32 \\ +60 \quad +60 \\ \hline 54f = 28 \\ \frac{54f}{54} = \frac{28}{54} \end{array}$$



$$\boxed{\begin{array}{l} f = \frac{28}{54} \\ f = \frac{14}{27} \end{array}}$$

$$22. 2k(-3k + 4) + 6(k^2 + 10) = k(4k + 8) - 2k(2k + 5)$$

$$\begin{array}{r} -6k^2 + 8k + 6k^2 + 60 \\ \hline 8k + 60 \end{array} = \begin{array}{r} 4k^2 + 8k - 4k^2 - 10k \\ \hline -2k \end{array}$$

$$\begin{array}{r} 8k + 60 = -2k \\ -8k \quad -8k \\ \hline 60 = -10k \end{array}$$

$$\begin{array}{r} 60 = -10k \\ -10 \quad -10 \\ \hline -6 = k \end{array}$$

$$\boxed{k = -6}$$