

Algebra Mixed Review Classwork

Solve the following

1)  $3a + 17 = -25$

$$\begin{array}{r} 17 - 17 \\ \hline \end{array}$$

$$\frac{3a}{3} = \frac{-42}{3}$$

$$a = -14$$

2)  $2b - 25 + 5b = -32$

$$2b + 5b - 25 = -32$$

$$7b - 25 = -32$$

$$\begin{array}{r} +25 +25 \\ \hline \end{array}$$

$$\frac{7b}{7} = \frac{-7}{7}$$

$$b = -1$$

3)  $2.7c - 4.5 = 3.6c - 9$

$$\begin{array}{r} -2.7c -2.7c \\ \hline \end{array}$$

$$\begin{array}{r} -4.5 = .9c - 9 \\ +9 +9 \\ \hline \end{array}$$

$$\frac{4.5}{.9} = \frac{.9c}{.9}$$

$$c = 5$$

4)  $4e - 6e - 5 = 15$

$$\begin{array}{r} -2e - 5 = 15 \\ +5 +5 \\ \hline \end{array}$$

$$\frac{-2e}{-2} = \frac{20}{-2}$$

$$e = -10$$

5)  $420 = 29f - 73$

$$\begin{array}{r} +73 +73 \\ \hline \end{array}$$

$$\frac{493}{29} = \frac{29f}{29}$$

$$f = 17$$

6)  $2(g + 6) = -20$

$$2g + 12 = -20$$

$$\begin{array}{r} -12 -12 \\ \hline \end{array}$$

$$\frac{2g}{2} = \frac{-32}{2}$$

$$g = -16$$

$$7) 2h + 7 = -3h + 52$$
$$\begin{array}{r} +3h \\ \hline 5h + 7 = 52 \\ -7 \quad -7 \\ \hline 5h = 45 \\ \frac{5}{5} \quad \frac{5}{5} \\ \hline h = 9 \end{array}$$

$$\boxed{h = 9}$$

$$8) 5m - 2(m - 5) = 19$$

$$\begin{array}{r} 5m - 2m + 10 = 19 \\ 3m + 10 = 19 \\ -10 \quad -10 \\ \hline 3m = 9 \\ \frac{3}{3} \quad \frac{3}{3} \\ \hline m = 3 \end{array}$$
$$\boxed{m = 3}$$

$$9) 3y + 7 = 46$$

$$\begin{array}{r} -7 \quad -7 \\ \hline 3y = 39 \\ \frac{3}{3} \quad \frac{3}{3} \\ \hline y = 13 \end{array}$$
$$\boxed{y = 13}$$

$$10) 30s + 240 = 50s - 160$$

$$\begin{array}{r} -30s \quad -30s \\ \hline 240 = 20s - 160 \\ +160 \quad +160 \\ \hline 400 = 20s \\ \frac{400}{20} = \frac{20s}{20} \\ \hline s = 20 \end{array}$$
$$\boxed{s = 20}$$

$$11) 4m + \frac{3}{8} = \frac{67}{8}$$

$$\begin{array}{r} -\frac{3}{8} \quad -\frac{3}{8} \\ \hline 4m = 8 \\ \frac{4}{4} \quad \frac{4}{4} \\ \hline m = 2 \end{array}$$
$$\boxed{m = 2}$$

$$12) 6(f + 5) = 2f - 6$$

$$\begin{array}{r} 6f + 30 = 2f - 6 \\ -2f \quad -2f \\ \hline 4f + 30 = -6 \\ -30 \quad -30 \\ \hline 4f = -36 \\ \frac{4}{4} \quad \frac{4}{4} \\ \hline f = -9 \end{array}$$
$$\boxed{f = -9}$$

$$13) 8.4x - 6.8 = 14.2 + 6.3x$$

$$\begin{array}{r} -6.3x \\ \hline 2.1x - 6.8 = 14.2 \\ +6.8 \quad +6.8 \\ \hline \end{array}$$

$$\begin{array}{r} 2.1x - 6.8 = 14.2 \\ +6.8 \quad +6.8 \\ \hline \end{array}$$

$$\begin{array}{r} 2.1x = 21 \\ \hline 2.1 \quad 2.1 \end{array}$$

$$\boxed{x = 10}$$

$$14) 4p - p + 8 = 2p + 5$$

$$3p + 8 = 2p + 5$$

$$\begin{array}{r} -2p \quad -2p \\ \hline p + 8 = 5 \\ -8 \quad -8 \\ \hline \end{array}$$

$$\begin{array}{r} p + 8 = 5 \\ -8 \quad -8 \\ \hline \end{array}$$

$$\boxed{p = -3}$$

$$15) 2b + 5(b + 1) = -9$$

$$2b + 5b + 5 = -9$$

$$7b + 5 = -9$$

$$\begin{array}{r} -5 \quad -5 \\ \hline 7b = -14 \\ \hline \end{array}$$

$$\begin{array}{r} 7b = -14 \\ \hline 7 \quad 7 \end{array}$$

$$\boxed{b = -2}$$

$$16) 45 + 36x = 66 + 23x + 31$$

$$45 + 36x = 66 + 31 + 23x$$

$$45 + 36x = 97 + 23x$$

$$\begin{array}{r} -23x \quad -23x \\ \hline 45 + 13x = 97 \\ -45 \quad -45 \\ \hline \end{array}$$

$$\begin{array}{r} 45 + 13x = 97 \\ -45 \quad -45 \\ \hline \end{array}$$

$$\begin{array}{r} 13x = 52 \\ \hline 13 \quad 13 \end{array}$$

$$\boxed{x = 4}$$

$$17) 6v + 8 = -4 - 6v$$

$$\begin{array}{r} +6v \quad +6v \\ \hline 12v + 8 = -4 \\ -8 \quad -8 \\ \hline \end{array}$$

$$12v + 8 = -4$$

$$\begin{array}{r} -8 \quad -8 \\ \hline 12v = -12 \\ \hline \end{array}$$

$$\begin{array}{r} 12v = -12 \\ \hline 12 \quad 12 \end{array}$$

$$\boxed{v = -1}$$

$$18) 3(q - 8) - 14 = 10 - 9q$$

$$3q - 24 - 14 = 10 - 9q$$

$$\begin{array}{r} 3q - 38 = 10 - 9q \\ +9q \quad +9q \\ \hline 12q - 38 = 10 \\ +38 \quad +38 \\ \hline \end{array}$$

$$\begin{array}{r} 12q - 38 = 10 \\ +38 \quad +38 \\ \hline \end{array}$$

$$\begin{array}{r} 12q = 48 \\ \hline 12 \quad 12 \end{array}$$

$$\boxed{q = 4}$$

$$19) \frac{3}{5}x + 6 = 12$$

$$\frac{-6}{-6} \quad \frac{-6}{-6}$$

$$\left(\frac{5}{3}\right) \cdot \left(\frac{3}{5}x\right) = (6) \cdot \left(\frac{5}{3}\right)$$

$$x = 10$$

$$20) 5 + \frac{2}{3}x = 11$$

$$\frac{-5}{-5} \quad \frac{-5}{-5}$$

$$\left(\frac{3}{2}\right) \cdot \left(\frac{2}{3}x\right) = (6) \cdot \left(\frac{3}{2}\right)$$

$$x = 9$$