Learning Goal: We are learning to solve equations that contain fractions.

The final step to solving equations is to add fractions into the mix. Do not be afraid! Just follow the process and you will be fine.

CD is 4

a) $\dfrac{x}{4} = \dfrac{1 \times 2}{2 \times 2}$

$\dfrac{x}{4} = \dfrac{2}{4}$

$x = 2$

CD 6.

b) $\dfrac{m}{6} = \dfrac{-1 \times 2}{3 \times 2}$

$\dfrac{m}{6} = \dfrac{-2}{6}$

$m = -2$

CD·6

c) $\dfrac{y^{\times 3}}{2^{\times 3}} = \dfrac{y^{\times 2}}{3^{\times 2}} - 1^{\times 6}_{1 \times 6}$

$\dfrac{3y}{6} = \dfrac{2y}{6} - \dfrac{6}{6}$

$3y = 2y - 6$

$-2y \qquad -2y$

$y = -6$

CD is 6

d) $\dfrac{5n^{\times 3}}{2^{\times 3}} = \dfrac{4n^{\times 2}}{3^{\times 2}} - \dfrac{7}{6}$

$\dfrac{15n}{6} = \dfrac{8n}{6} - \dfrac{7}{6}$

$15n = 8n - 7$

$-8n \qquad -8n$

$\dfrac{7n}{7} = \dfrac{-7}{7}$

$n = -1$

CD is 15

e) $\dfrac{n^{\times 5}}{3^{\times 5}} + 2^{\times 15}_{1 \times 15} = \dfrac{n^{\times 3}}{5^{\times 3}} + 4^{\times 15}_{1 \times 15}$

$5n + 30 = 3n + 60$

$-3n \quad -30 \qquad -3n \quad -30$

$\dfrac{2n}{2} = \dfrac{30}{2}$

$n = 15$

CD is 20

f) $\dfrac{4(3-y)}{5 \times 4} = \dfrac{5(-2-3y)}{4 \times 5}$

$4(3-y) = 5(-2-3y)$

$12 - 4y = -10 - 15y$

$-12 \quad +15y \qquad -12 \quad +15y$

$\dfrac{11y}{11} = \dfrac{-22}{11}$

$y = -2$

g) $\dfrac{3(n+5)}{-2 \times 3} - \dfrac{n^2}{3 \times 2} = 1$ CD is 6

$$3(n+5) - 2n = 6$$

$$3n + 15 - 2n = 6$$

$$n + 15 = 6$$
$$-15 \quad -15$$

$$n = -9$$

h) $\dfrac{1-x}{4} - \dfrac{x^2}{2 \times 2} = 7$ CD is 4

$$1-x - 2x = 28$$

$$1 - 3x = 28$$
$$-1 -1$$

$$-3x = 27$$
$$\overline{-3} \quad \overline{-3}$$

$$x = -9$$

i) $\dfrac{2(x+1)}{3 \times 2} + \dfrac{3(2-3x)}{2 \times 3} = -1$ CD is 6

$$2(x+1) + 3(2-3x) = -6$$

$$2x + 2 + 6 - 9x = -6$$

$$-7x + 8 = -6$$
$$- 8 \quad -8$$

$$-7x = -14$$
$$\overline{-7} \quad \overline{-7}$$

$$x = 2$$

#14 $\dfrac{5(2x+1)}{3 \times 5} - \dfrac{3(x+4)}{5 \times 3} = \dfrac{7 \times 15}{1 \times 15}$ CD = 15

$$5(2x+1) - 3(x+4) = 105$$

$$10x + 5 - 3x - 12 = 105$$

$$7x - 7 = 105$$
$$+7 +7$$

$$7x = 112$$
$$\overline{7} \quad \overline{7}$$

$$\underline{x = 16}$$

Success Criteria:
- I can create equivalent fractions using a common denominator
- I can recognize that once every fraction has a common denominator, the denominator does not matter anymore
- I can then solve the equation using methods from prior lessons