

Solving Equations with Fractions (Part A)

Date Notes

Steps to Solve:

1. Cross multiply to eliminate the fraction.
2. Remove any brackets.
3. Collect any like terms.
4. Isolate variable.



Examples

a) $\frac{4(y-2)}{9} = 8$ cross x

$$4(y-2) = 72$$
$$4y - 8 = 72$$
$$4y = 72 + 8$$
$$\frac{4y}{4} = \frac{80}{4}$$
$$y = 20$$

b) $\frac{2(k+3)}{3} = 4$

$$2(k+3) = 12$$
$$2k + 6 = 12$$
$$2k = 12 - 6$$
$$\frac{2k}{2} = \frac{6}{2}$$
$$k = 3$$

c) $\frac{4k}{7} - \frac{k}{7} = -3$

$$\frac{3k}{7} = -3$$
$$\frac{3k}{3} = \frac{-21}{3}$$
$$k = -7$$

d) $\frac{a-3}{4} = \frac{a-2}{3}$ cross x

$$3(a-3) = 4(a-2)$$
$$3a - 9 = 4a - 8$$
$$-9 + 8 = 4a - 3a$$
$$-1 = a$$

e) $\frac{y-3}{5} = \frac{y+4}{6}$ cross x

$$6(y-3) = 5(y+4)$$
$$6y - 18 = 5y + 20$$
$$6y - 5y = 20 + 18$$
$$y = 38$$