

$$1) \quad V = \frac{4}{3} \pi r^3 \quad [r]$$

$$3V = 4\pi r^3$$

$$\frac{3V}{4\pi} = r^3$$

$$r = \sqrt[3]{\frac{3V}{4\pi}}$$

$$2) \quad 3x - 5y = y - mx \quad [x]$$

$$3x + mx = y + 5y$$

$$x(3+m) = 6y$$

$$x = \frac{6y}{3+m}$$

$$3) \quad P = \frac{C}{C+4} \quad [C]$$

$$P(C+4) = C$$

$$PC + 4P = C$$

$$4P = C - PC$$

$$4P = C(1-P)$$

$$\frac{4P}{1-P} = C$$

$$C = \frac{4P}{1-P}$$

$$4) \quad V = \frac{1}{3} \pi r^2 h \quad [r]$$

$$3V = \pi r^2 h$$

$$\frac{3V}{\pi h} = r^2$$

$$r = \sqrt{\frac{3V}{\pi h}}$$

$$5) \quad 2a + 5c = af + 7c \quad [a]$$

$$2a - af = 7c - 5c$$

$$a(2-f) = 2c$$

$$a = \frac{2c}{2-f}$$

$$6) \quad s = \frac{1}{2} at^2 \quad [t]$$

$$2s = at^2$$

$$\frac{2s}{a} = t^2$$

$$t = \sqrt{\frac{2s}{a}}$$

7) $E = \frac{1}{2}mv^2$ [v]

$2E = mv^2$

$\frac{2E}{m} = v^2$

$v = \sqrt{\frac{2E}{m}}$

10) $s = ut + \frac{1}{2}at^2$ [a]

$s - ut = \frac{1}{2}at^2$

$2(s - ut) = at^2$

$\frac{2(s - ut)}{t^2} = a$

$a = \frac{2(s - ut)}{t^2}$

8) $y = \frac{x+3}{x-2}$ [x]

$y(x-2) = x+3$

$yx - 2y = x + 3$

$yx - x = 3 + 2y$

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

$x = \frac{3 + 2y}{y - 1}$

9) $y + 5 = x(y + 2)$ [y]

$y + 5 = xy + 2x$

$y - xy = 2x - 5$

$y(1 - x) = 2x - 5$

$y = \frac{2x - 5}{1 - x}$