11. Re-arranging Formulae

Exercise 1

In each of the following questions, re-arrange the equation to make the letter in the bracket the subject.

1) $v = u + at$	(u)	2) $v = u + at$	(a)
3) $d = 3b - c$	(b)	4) $c = pd + w$	(w)
5) $x = 7y - z$	(z)	6) $a = 3b + c$	(b)
7) $w = \dfrac{4v + u}{3}$	(v)	8) $x = \dfrac{5y + b}{4}$	(b)
9) $2x = x + b$	(b)	10) $6y = 3a - 2y$	(a)
11) $p = \frac{1}{2}a + 3b$	(a)	12) $w = 2v + \frac{1}{4}u$	(v)
13) $c = \dfrac{a + b}{d}$	(d)	14) $p = \dfrac{2r - q}{3s}$	(s)
15) $x = 2(y + z)$	(z)	16) $a = 3(3b + 4c)$	(c)
17) $x = \frac{1}{2}(y + z)$	(y)	18) $3a = \frac{1}{3}(2b + c)$	(c)
19) $3x = \frac{1}{4}(y - z)$	(z)	20) $5w = \frac{1}{3}(3v - 2u)$	(u)
21) $7x - 4y = \frac{1}{2}(3x + 6y)$	(x)	22) $5a + 3b = \frac{2}{3}(3b - 2a)$	(a)

Exercise 2

In each of the following questions, re-arrange the equation to make the letter in the bracket the subject.

1) $a = \dfrac{b^2}{c}$	(b)	2) $x = \dfrac{y}{z^2}$	(z)
3) $c = \dfrac{4a^2}{b}$	(a)	4) $3v = \dfrac{9}{u^2}$	(u)
5) $\frac{1}{2}x = \frac{2}{3}x + y$	(y)	6) $\frac{3}{4}y - 2x = y$	(y)
7) $\frac{7}{2}x = \frac{1}{2}(x + y)$	(x)	8) $\frac{4}{9}b = \frac{1}{4}(b - 3c)$	(b)
9) $\dfrac{1}{x} = \dfrac{1}{a} + \dfrac{1}{b}$	(x)	10) $\dfrac{2}{3x} = \dfrac{2}{y} + \dfrac{3}{z}$	(x)
11) $\dfrac{1}{\sqrt{x}} = \dfrac{1}{2a} + \dfrac{1}{3b}$	(x)	12) $\dfrac{2}{\sqrt{x}} = \dfrac{3}{2y} + \dfrac{b}{2}$	(x)
13) $\dfrac{2}{3x} = \dfrac{y}{2} - \dfrac{1}{z}$	(z)	14) $\dfrac{3}{x} = \dfrac{6}{y} - \dfrac{1}{z}$	(z)
15) $x = \dfrac{1}{a^2} + \dfrac{1}{b}$	(a)	16) $4y = \dfrac{2}{3a^2} + 3b$	(a)
17) $\dfrac{3}{b} = \dfrac{1}{b} + \dfrac{1}{c}$	(b)	18) $\dfrac{3}{x} - \dfrac{6}{y} = \dfrac{1}{x}$	(x)
19) $3x = \dfrac{2y + z}{y}$	(y)	20) $4a = \dfrac{b - 3c}{c}$	(c)
21) $\dfrac{1}{x} = \dfrac{x + 3y}{x}$	(x)	22) $\dfrac{2}{y} = \dfrac{x - 3y}{2y}$	(y)