



5. Rewrite each of the following formulae as indicate

(a) $A = lw$. Express w in terms of A and l .

(b) $C = 2\pi r$. Make r the subject.

(c) $A = \frac{hb}{2}$. Express b in terms of A and h .

(d) $V = \pi r^2 h$. Make h the subject.

(e) $E = \frac{1}{2}n + a$. Express n in terms of E and a .

(f) $A = \frac{h}{2}(a + b)$. Express h in terms of A , a and

(g) If $A = h(R^2 - r^2)$, find h in terms of A , R and r

(h) $P = 2(l + w)$. Make l the subject.

(i) $s = \pi r(r + h)$. Make h the subject.

(j) $x = \frac{S - s}{2p}$. Make S the subject.

(k) $\frac{1}{f} = \frac{1}{u} + \frac{1}{v}$. Make f the subject.

(l) $S = 2\pi r(r + h)$. Make h the subject.

(m) $S = \frac{1}{2}(u + v)t$. Make u the subject.

(n) $x = \frac{2p}{s - 1}$. Make s the subject.

- (o) $x = \frac{2p}{p-1}$. Make p the subject.
- (p) If $T = \frac{R+r}{R}$, find R in terms of T and r .
- (q) If $\frac{1}{u} + \frac{1}{v} = \frac{1}{f}$, find u in terms of f and v .
- (r) If $v = u + ft$, express t in terms of u , v and f .
- (s) If $s = ut + \frac{1}{2}ft^2$, express f in terms of s , u and t .
- (t) If $v^2 = u^2 + 2fs$, express s in terms of v , u and f .
- (u) If $\frac{1}{t} = (u-1)\left(\frac{1}{r_1} + \frac{1}{r_2}\right)$, find t in terms of u , r_1 and r_2 .
- (v) If $\frac{b}{h} = r\left(1 + \frac{k}{h}\right)$, find r in terms of b , h and k .

Exercise 3.2 (p. 56)

5. (a) $w = \frac{A}{l}$ (b) $r = \frac{C}{2\pi}$
- (c) $b = \frac{2A}{h}$ (d) $h = \frac{V}{\pi r^2}$
- (e) $n = 2(E-a)$ (f) $h = \frac{2A}{a+b}$
- (g) $h = \frac{A}{R^2 - r^2}$ (h) $l = \frac{P}{2} - w$
- (i) $h = \frac{s}{\pi r} - r$ (j) $S = 2px + s$
- (k) $f = \frac{uv}{(v+u)}$ (l) $h = \frac{S}{2\pi r} - r$
- (m) $u = \frac{2s - tv}{t}$ (n) $s = \frac{2p}{x} + 1$
- (o) $p = \frac{x}{x-2}$ (p) $R = \frac{r}{T-1}$
- (q) $u = \frac{fv}{v-f}$ (r) $t = \frac{v-u}{f}$
- (s) $f = \frac{2(s-ut)}{t^2}$ (t) $s = \frac{v^2 - u^2}{2f}$
- (u) $t = \frac{r_1 r_2}{(u-1)(r_1 + r_2)}$ (v) $r = \frac{b}{h+k}$