Rearranging formulas

6 questions | 13 marks

Equivalent correct methods earn the corresponding marks.

1. Make r the subject of $C = 2\pi r$. [2 marks]

Divide by the constant 2π.

Answer: $r = \frac{C}{2\pi}$

2. Make h the subject of $A = \frac{bh}{2}$. [2 marks]

Multiply by 2, then divide by b.

Answer: $h = \frac{2A}{b}$, $b \neq 0$

3. Make b the subject of $P = 2a + 2b$. [2 marks]

Subtract $2a$, then divide by 2.

Answer: $b = \frac{P - 2a}{2}$

4. Make x the subject of $y = m(x - 2) + c$. [2 marks]

Subtract c, divide by m, then add 2.

Answer: $x = \frac{y - c}{m} + 2$, $m \neq 0$

5. Make t the subject of $s = ut + vt$. [2 marks]

Factor t: $s = t(u + v)$.

Answer: $t = \frac{s}{u + v}$ when $u + v \neq 0$.

6. A trapezium has area $A = \frac{(a + b)h}{2}$. Make b the subject, then find b for $A = 45, a = 4, h = 6$. [3 marks]

$2A = (a + b)h$, then $\frac{2A}{h} = a + b$ with $h \neq 0$.

Substitute: $\frac{90}{6} - 4 = 11$.

Answer: $b = \frac{2A}{h} - a$; $b = 11$.