Extra Content for Foundation GCSE

93. Rearranging Formulae to Change the Subject

Practice Questions

1. Make x the subject of $y = x + 5$.

2. Rearrange $A = bh$ to make b the subject.

3. Make r the subject of $C = 2\pi r$.

4. Rearrange $v = u + at$ to make t the subject.

5. Make x the subject of $y = 3x - 7$.

6. Rearrange $P = 2l + 2w$ to make w the subject.

7. Make x the subject of $ax + b = c$.

8. Rearrange $A = \pi r^2$ to make r the subject.

9. Make t the subject of $s = vt$.

10. Rearrange $E = mc^2$ to make m the subject.

Scenario Questions

1. The formula for speed is $s = \frac{d}{t}$. Rearrange it to make t the subject.

2. The perimeter of a rectangle is $P = 2l + 2w$. Rearrange to express l in terms of P and w.

3. The area of a triangle is $A = \frac{1}{2}bh$. Make h the subject.

4. The equation for kinetic energy is $KE = \frac{1}{2}mv^2$. Make m the subject.

5. The equation for density is $D = \frac{m}{V}$. Make m the subject.

6. The circumference of a circle is given by $C = 2\pi r$. Rearrange for r.

7. The formula for gravitational force is $F = \frac{Gm_1m_2}{r^2}$. Make r the subject.

8. The equation for work done is $W = Fd$. Rearrange to find F.

9. The ideal gas law is $PV = nRT$. Make T the subject.

10. The formula for electrical power is $P = VI$. Rearrange to make I the subject.

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Practice Questions

1. $x = y - 5$
2. $b = \frac{A}{h}$
3. $r = \frac{C}{2\pi}$
4. $t = \frac{v-u}{a}$
5. $x = \frac{y+7}{3}$
6. $w = \frac{P-2l}{2}$
7. $x = \frac{c-b}{a}$
8. $r = \sqrt{\frac{A}{\pi}}$
9. $t = \frac{s}{v}$
10. $m = \frac{E}{c^2}$

Scenario Questions

1. $t = \frac{d}{s}$
2. $l = \frac{P-2w}{2}$
3. $h = \frac{2A}{b}$
4. $m = \frac{2KE}{v^2}$
5. $m = DV$
6. $r = \frac{C}{2\pi}$
7. $r = \sqrt{\frac{Gm_1m_2}{F}}$
8. $F = \frac{W}{d}$
9. $T = \frac{PV}{nR}$
10. $I = \frac{P}{V}$