

Substitution into Formula

THEORY QUESTIONS

1. Given that $v = u + at$, find v when $u = 15$, $a = 4$ and $t = 3$.
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2. Given that $s = ut + \frac{1}{2}at^2$, find s when $u = 6$, $a = 10$ and $t = 4$.
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3. Given that $A = \pi r^2$, find A when $r = 7$ cm. (Take $\pi = \frac{22}{7}$)
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4. Given that $I = \frac{PRT}{100}$, find I when $P = \text{₦}25,000$, $R = 5\%$ and $T = 3$ years.
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5. Given that $F = \frac{9}{5}C + 32$, find F when $C = 35$.
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6. Given that $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$, find the two values of x when $a = 1$, $b = -5$ and $c = 6$.
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7. Given that $T = 2\pi \sqrt{l/g}$, find T , correct to 2 decimal places, when $l = 0.9$ m, $g = 10 \text{ m/s}^2$ and $\pi = 3.14$.
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8. Given that $E = mc^2$, find E , leaving your answer in standard form, when $m = 2$ kg and $c = 3 \times 10^8$ m/s.
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9. Given that $v^2 = u^2 + 2as$, find v , correct to 2 significant figures, when $u = 10$, $a = 5$ and $s = 15$.
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10. Given that $R = \frac{R_1 R_2}{R_1 + R_2}$, find R when $R_1 = 6 \Omega$ and $R_2 = 3 \Omega$.
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ANSWERS

1. $v = 27$
2. $s = 104$
3. $A = 154 \text{ cm}^2$
4. $I = \text{₦}3,750$
5. $F = 95$
6. $x = 3$ or $x = 2$
7. $T \approx 1.88 \text{ s}$
8. $E = 1.8 \times 10^{17} \text{ J}$
9. $v \approx 16$
10. $R = 2 \Omega$

