SUBSTITUTION WORKSHEET

1. Given that $x = 2$, $y = -5$ and $z = 3$, find the value of
   (a) $x - 2y$
   (b) xz^2
   (c) $\dfrac{7x + 2z}{y}$
2. Given that $p = 2$, $q = -3$ and $r = 1$, find the value of
   (a) $5p - 2q$
   (b) $pq + pr$
   (c) pr^2
3. Given that $a = 4$, $b = -2$ and $c = 3$, calculate the value of $\dfrac{a^2 - bc}{b + c}$.
4. Given that $m = -3$, $n = 2$ and $p = -1$, find the value of $\dfrac{m(p - n)^2}{3p + m}$.
5. If $l = -2$, $n = -3$ and $m = 4$, calculate the value of $\dfrac{m + nl}{n - m}$.
6. Given that $a = 4$,$b = -3$ and $c = 12$, calculate the value of $a^2(2b - c)$.
7. Given that $l = -2$, $m = 3$ and $n = 7$, calculate the value of $lm(m - n)$.
8. If $a = 4$, $b = -2$ and $c = 3$, calculate the value of $\dfrac{a(a - b)}{bc}$.
9. Given that $a = 2$, $b = -3$ and $c = 0$, evaluate
   (i) $4a - 2b + 3c$
   (ii) a^c
10. If $p = 5$, $q = 0$ and $r = -3$ evaluate
    (i) $4p - qr$
    (ii) $2r^3$
11. Given that $r = \dfrac{2p^2}{q - 3}$, calculate the value of r when $p = 6$ and $q = 12$.
12. Using the formula $t = \sqrt{\dfrac{5m}{12n}}$ calculate the value of t when $m = 20$ and $n = 48$.

ANSWERS

1. (a) 12 (b) 18 (c) -4
2. (a) 16 (b) -4 (c) 2
3. 22
4. $\frac{9}{2}$
5. $-\frac{10}{7}$
6. -288
7. 24
8. -4
9. (i) 14 (ii) 1
10. (i) 20 (ii) -54
11. 8
12. $\frac{5}{12}$