Changing the Subject of a Formula - Past Paper Questions - SOLUTIONS

1) $r = 3p + 2t$

$r - 2t = 3p$

$p = \frac{r-2t}{3}$

2) $Q = p^2 + 3T$

$Q - p^2 = 3T$

$T = \frac{Q - p^2}{3}$

3) $P = 2(L + B)$

$\frac{P}{2} = L + B$

$L = \frac{P}{2} - B$

4) $L = \frac{1}{2}(h - t)$

$2L = h - t$

$h = 2L + t$

5) $d = \frac{k-m}{t}$

$dt = k - m$

$k = dt + m$

6) $t = \frac{7s + 4}{2}$

$2t = 7s + 4$

$2t - 4 = 7s$

$s = \frac{2t-4}{7}$

7) $m = \frac{3x + 2y}{p}$

$mp = 3x + 2y$

$mp - 2y = 3x$

$x = \frac{mp-2y}{3}$

8) $P = \frac{2(m-4)}{3}$

$3P = 2m - 8$

$3P + 8 = 2m$

$m = \frac{3P + 8}{2}$

9) $A = \frac{1}{2}h(a + b)$

$2A = h(a + b)$

$h = \frac{2A}{(a + b)}$

10) $P = 4 + \frac{5}{W}$

$P - 4 = \frac{5}{W}$

$W(P - 4) = 5$

$W = \frac{5}{P-4}$

11) $\frac{x}{c} + a = b$

$\frac{x}{c} = b - a$

$x = c(b - a)$

12) $s = ut + \frac{1}{2}at^2$

$s - ut = \frac{1}{2}at^2$

$2(s - ut) = at^2$

$a = \frac{2(s-ut)}{t^2}$

13) $W = BH^2$

$\frac{W}{B} = H^2$

$H = \sqrt{\frac{W}{B}}$

14) $y = ax^2 + c$

$y - c = ax^2$

$\frac{y-c}{a} = x^2$

$x = \sqrt{\frac{y-c}{a}}$

15) $p = q + 2r^2$

$p - q = 2r^2$

$\frac{p-q}{2} = r^2$

$r = \sqrt{\frac{p-q}{2}}$

16) $a = 3b^2 + c$

$a - c = 3b^2$

$\frac{a-c}{3} = b^2$

$b = \sqrt{\frac{a-c}{3}}$

17) $M = R^2t - 3$

$M + 3 = R^2t$

$\frac{M+3}{t} = R^2$

$R = \sqrt{\frac{M+3}{t}}$

18) $A = 4\pi r^2$

$\frac{A}{4\pi} = r^2$

$r = \sqrt{\frac{A}{4\pi}}$

19) $f = \frac{kd^2}{20}$

$20f = kd^2$

$\frac{20f}{k} = d^2$

$d = \sqrt{\frac{20f}{k}}$

20) $K = \frac{m^2n}{p}$

$Kp = m^2n$

$\frac{Kp}{n} = m^2$

$m = \sqrt{\frac{Kp}{n}}$

21) $E = \frac{I}{D^2}$

$ED^2 = I$

$D^2 = \frac{I}{E}$

$D = \sqrt{\frac{I}{E}}$

22) $p = q + \sqrt{a}$

$p - q = \sqrt{a}$

$a = (p - q)^2$

23) $L = \frac{\sqrt{m}}{k}$

$kL = \sqrt{m}$

$m = (kL)^2$