REARRANGING FORMULAE

Answer all of these questions. Remember to show your working out in all questions.

MAIN QUESTIONS

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1. $y = 2x + 3$ | $x = (y - 3)/2$

2. $A = \pi r^2$ | $r = \sqrt{(A/\pi)}$

3. $v = u + at$ | $t = (v - u)/a$

4. $P = 2(l + w)$ | $l = (P/2) - w$

5. $E = mc^2$ | $c = \sqrt{(E/m)}$

6. $S = ut + \frac{1}{2}at^2$ | $u = (S - \frac{1}{2}at^2)/t$

7. $V = \frac{1}{3}\pi r^2 h$ | $h = 3V/(\pi r^2)$

8. $F = (9/5)C + 32$ | $C = (5/9)(F - 32)$

9. $T = 2\pi\sqrt{(l/g)}$ | $l = (T^2 g)/(4\pi^2)$

10. $ax + b = cx + d$ | $x = (d - b)/(a - c)$

11. $y = 3x - 2x + 5$ | $x = y - 5$

12. $p = 2q + 3q - 7$ | $q = (p + 7)/5$

13. $m = 4n + 2n - 3$ | $n = (m + 3)/6$

14. $z = 5w - 2w + 8$ | $w = (z - 8)/3$

15. $k = 7j + 3j - 4$ | $j = (k + 4)/10$

16. $r = 2s + 5s - 9$ | $s = (r + 9)/7$

17. $t = 6u - 3u + 12$ | $u = (t - 12)/3$

18. $v = 8w + 2w - 15$ | $w = (v + 15)/10$

19. $x = 4y - y + 7$ | $y = (x - 7)/3$

20. $a = 5b + 2b - 11$ | $b = (a + 11)/7$

21. $c = 3d + 4d - 6$ | $d = (c + 6)/7$

22. $e = 2f - 5f + 9$ | $f = (9 - e)/3$

23. $g = 6h + h - 13$ | $h = (g + 13)/7$

24. $i = 4j - 2j + 8$ | $j = (i - 8)/2$

25. $k = 7l + 3l - 10$ | $l = (k + 10)/10$ 26. $m = 5n - n + 14$ | $n = (m - 14)/4$

27. $o = 8p + 2p - 17$ | $p = (o + 17)/10$ 28. $q = 6r - 3r + 20$ | $r = (q - 20)/3$

29. $s = 9t + t - 25$ | $t = (s + 25)/10$

MASTER QUESTIONS

M1. The area of a circle is 78.5cm^2. Find its radius. | The radius is 5cm

M2. A car accelerates from 20m/s to 30m/s in 5 seconds. Calculate its acceleration. | The acceleration is 2m/s^2

M3. The perimeter of a rectangle is 36cm and its length is twice its width. Find its dimensions. | The rectangle is 12cm by 6cm

M4. A triangle has area 24cm^2 and height 8cm. Find its base length. | The base is 6cm

M5. The volume of a cylinder is 314cm^3 with height 10cm. Find its radius. | The radius is approximately 3.16cm

M6. A train travels 240km in 3 hours. Calculate its average speed. | The average speed is 80km/h

M7. The sum of three consecutive even numbers is 54. Find the numbers. | The numbers are 16, 18, and 20

M8. A right-angled triangle has hypotenuse 13cm and one side 5cm. Find the other side. | The other side is 12cm

M9. The cost of 5 books and 3 pens is £32. If a book costs twice a pen, find the cost of each. | A pen costs £2 and a book costs £4

M10. A mixture contains alcohol and water in ratio 3:2. If there is 15 litres of alcohol, find the total volume.

The total volume is 25 litres