SUBSTITUTION

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

MAIN QUESTIONS

1. Find a + b where a = 5, b = 3
2. Find a - b where a = 7, b = 4
3. Find a × b where a = 6, b = 2
4. Find a ÷ b where a = 15, b = 3
5. Find a + b - c where a = 8, b = 5, c = 2
6. Find a × b + c where a = 3, b = 4, c = 2
7. Find a ÷ b × c where a = 20, b = 4, c = 3
8. Find a + b × c where a = 2, b = 3, c = 4
9. Find (a + b) × c where a = 3, b = 2, c = 5
10. Find a × (b - c) where a = 4, b = 7, c = 3
11. Find a^2 + b where a = 3, b = 5
12. Find $\sqrt{a}$ + b where a = 16, b = 3
13. Find a^3 - b where a = 2, b = 5
14. Find 2a + 3b where a = 4, b = 2
15. Find 4a - 2b where a = 5, b = 3
16. Find a^2 + b^2 where a = 3, b = 4
17. Find $(a + b)^2$ where a = 2, b = 3
18. Find a^2 - b^2 where a = 5, b = 3
19. Find 3a × 2b where a = 2, b = 3
20. Find 4a ÷ 2b where a = 6, b = 2

21. Find $a + b \times c^2$ where $a = 2$, $b = 3$, $c = 2$

22. Find $(a + b) \times (c - d)$ where $a = 4$, $b = 3$, $c = 8$, $d = 5$

23. Find $a^2 + b^2 - c^2$ where $a = 3$, $b = 4$, $c = 2$

24. Find $\sqrt{(a + b)} \times c$ where $a = 7$, $b = 2$, $c = 3$

25. Find $2a^3 - 3b^2$ where $a = 2$, $b = 3$

26. Find $(a + b) \div (c - d)$ where $a = 8$, $b = 4$, $c = 7$, $d = 3$

27. Find $a \times b + c \times d$ where $a = 2$, $b = 5$, $c = 3$, $d = 4$

28. Find $(a^2 + b^2) \div c$ where $a = 3$, $b = 4$, $c = 5$

29. Find $\sqrt{a} + \sqrt{b} \times c$ where $a = 9$, $b = 16$, $c = 2$

30. Find $2a^3 - 3b^2 + 4c$ where $a = 2$, $b = 3$, $c = 5$

MASTER QUESTIONS

M1. A rectangle has length $2x + 3$ and width $x - 1$. If $x = 4$, find the area.

M2. The cost of a meal is £3 per adult and £2 per child. If there are a adults and c children, find the total cost when $a = 5$ and $c = 3$.

M3. A car travels at speed s mph for t hours. If $s = 50$ and $t = 2.5$, find the distance travelled.

M4. The area of a triangle is $\frac{1}{2} \times$ base $\times$ height. If base = 8cm and height = 5cm, find the area.

M5. A shop sells apples for 25p each and oranges for 30p each. If I buy a apples and o oranges, find the total cost when $a = 6$ and $o = 4$.

M6. The volume of a cube is side^3. If side = 2.5cm, find the volume.

M7. A train travels d miles in t hours. Its average speed is $d \div t$. If $d = 120$ and $t = 1.5$, find the average speed.

M8. The perimeter of a rectangle is 2(length + width). If length $= 3x + 2$ and width $= x - 1$, find the perimeter when $x = 5$.

M9. A recipe requires 200g flour per person. If I'm cooking for p people, find the flour needed when p = 8.

M10. The kinetic energy of an object is ½ × mass × velocity^2. If mass = 10kg and velocity = 4m/s, find the kinetic energy.