

IGCSE 數學 0580 Paper 2

IGCSE (Extended) 數學 | 時限：90 分鐘 | 總分：70 分 | 共 20 題

甲部 數字與代數 (28 分)

全部題目必須作答，須展示計算步驟。

1. Expand and simplify $5(2x - 3) - 2(x - 4)$.
2. Solve $3x + 7 = 4x - 5$.
3. In a sale a jacket is reduced by 15 per cent and now costs \$680. Work out the original price.
4. Expand and simplify $(x + 6)(x - 4)$.
5. Factorise completely $6x^2 + 15x$.
6. y is directly proportional to x^2 . When $x = 7$, $y = 98$. Find y when $x = 11$.
7. Work out $(4.2 \times 10^5) \times (3.5 \times 10^{-3})$, giving your answer in standard form.
8. \$4,500 is invested at 3.2 per cent per year compound interest. Find the value after 3 years, to the nearest cent.
9. Simplify $(x^2 - 9) \div (x^2 + x - 12)$.

乙部 圖形與空間 (23 分)

如無特別說明，答案須附單位。

10. A right-angled triangle has legs 9 cm and 12 cm. Work out the length of the hypotenuse and the area of the triangle.
11. A sector of a circle of radius 7 cm has angle 120° . Using $\pi = 3.142$, work out the arc length.
12. A cone has base radius 6 cm and height 10 cm. Using $\pi = 3.142$, work out its volume.
13. Two triangles are similar. The area of the smaller is 50 cm^2 and the ratio of corresponding lengths is 5 : 7. Find the area of the larger triangle.
14. A ladder 6.5 m long leans against a vertical wall with its foot 2.5 m from the wall. Work out the height reached and the angle the ladder makes with the ground.
15. Work out the interior angle of a regular 12-sided polygon.

丙部 數據與概率 (19 分)

概率可用分數或小數作答。

16. Five test scores are 12, 15, 9, 18 and 21. Work out the mean score.
17. The ages of 10 club members are 3, 5, 7, 8, 8, 10, 12, 14, 15 and 18. Work out the median age.
18. A bag holds 5 red, 3 blue and 2 green counters. One counter is taken at random. (a) Work out the probability that it is not red. (b) Two counters are then taken without replacement; work out the probability that both are red.
19. A scatter graph of 20 students plots height against shoe size, with the points rising from left to right. Describe the correlation and say what it means.
20. The probability that a component is faulty is 0.04. In a batch of 500 components, work out the expected number of faulty components.