Maths Year 7 — Practice Exam 3 — Answers & Explanations

Answers to the 30 questions in the free preview.

Numeracy — non-calculator

1. D. trapezium

A trapezium has exactly one pair of parallel sides. A rhombus and a rectangle have two pairs, and a kite has none.

2. B. 15 cm²

The base is 5 cm and the perpendicular height is 3 cm, so the area is 5 × 3 = 15 cm². Moving the triangle from one end to the other makes a 5 by 3 rectangle. 21 uses the full width of 7 squares.

3. A. 4 cm

The edge length multiplied by itself three times gives 64, and 4 × 4 × 4 = 64. 8 cm is the square root, not the cube root.

4. A. 2 : 3

The highest common factor of 24 and 36 is 12: 24 ÷ 12 = 2 and 36 ÷ 12 = 3. 4 : 6 is equivalent but not simplest.

5. B. 10:40 am

The 10:40 am ferry reaches Balmain at 11:11 am, in time. The 12:10 pm ferry arrives at 12:41 pm, too late. 11:11 am is the arrival time, not a departure.

6. Answer: $3.60

8 × 45 cents = 360 cents, which is $3.60.

7. B. 2yx

Like terms have exactly the same pronumerals with the same powers. yx is the same as xy, so 2yx is a like term.

8. D. 0.34

3/4 = 0.75 = 75%, and 6/8 simplifies to 3/4. 0.34 just writes the digits 3 and 4 as a decimal; it is about one third.

9. Answer: 11

Work backwards: 17 + 5 = 22, then 22 ÷ 2 = 11. Check: 11 × 2 − 5 = 17.

10. C. 8

There are 4 edges around the square base and 4 more running up to the top point: 4 + 4 = 8. 5 is the number of faces and also of corners.

11. A. 3/8

The numbers greater than 5 are 6, 7 and 8: 3 of the 8 equal sectors. The probability is 3/8. 5/8 counts the numbers up to 5.

12. C. 18

√81 = 9 because 9 × 9 = 81, and 3² = 3 × 3 = 9. So the value is 9 + 9 = 18. 15 treats 3² as 3 × 2.

13. C. 12

Each of the 2 coin results can pair with each of the 6 dice results: 2 × 6 = 12 outcomes.

14. Answer: 30%

There are 15 + 10 + 20 + 5 = 50 students, and 15 chose soccer: 15/50 = 30/100 = 30%.

15. B. 4x + 12

The 4 multiplies both terms in the brackets: 4 × x + 4 × 3 = 4x + 12.

16. Answer: 54

Length + width is half the perimeter, 15 cm, so the width is 6 cm. Area = 9 × 6 = 54 cm².

17. B. 12 cm²

The base is 6 cm and the height is 4 cm, so the area is ½ × 6 × 4 = 12 cm². 24 cm² forgets the ½.

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18. D. 3/5
Multiply the numerators and the denominators: 18/30, which simplifies to 3/5. 11/13 adds instead of multiplying.

19. B. 4
The 8 values add to 2 + 3 + 3 + 4 + 4 + 4 + 5 + 7 = 32, and 32 ÷ 8 = 4.

20. Answer: $50
25% of $40 is one quarter, $10. The new price is $40 + $10 = $50.

21. C. 10 000
1 m = 100 cm, so 1 m² = 100 cm × 100 cm = 10 000 cm². 100 converts length, not area.

22. D. 1/3
There are 6 + 4 + 8 + 12 = 30 students and 6 + 4 = 10 are in the band: 10/30 = 1/3. 1/5 counts only those in the band but not the choir.

23. B. $y = 2x + 1$
y goes up by 2 each time x goes up by 1, and y = 1 when x = 0, so $y = 2x + 1$. $y = x + 1$ works only when x = 0.

24. B. 0.12
3 × 4 = 12, and there are two decimal places in the question, so 0.3 × 0.4 = 0.12.

25. Answer: 30 cm²
Area of a triangle = half × base × perpendicular height = 10 × 6 ÷ 2 = 30 cm². Forgetting to halve gives 60.

26. Answer: 23
With 9 scores in order, the median is the 5th: 12, 15, 18, 20, 23, … The 5th score is 23.

27. D. 3 + 4
The distance is Q − P = 3 − (−4) = 3 + 4 = 7. Subtracting a negative is the same as adding.

28. D. (1, 3)
Substituting x = 1 gives y = 2 × 1 + 1 = 3, so (1, 3) is on the line. For x = 2 the line gives 5, not 4.

29. A. 5
Take 4 from both sides: the three x blocks balance 19 − 4 = 15, so each x is 15 ÷ 3 = 5. 15 is all three blocks together.

30. Answer: 42
Design 6 has 6 rows of 7 tiles: 6 × 7 = 42.

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PREVIEW

That’s the end of the preview answers

These are the answers to the 30 preview questions. The full answer key covers all 60 questions in Maths Year 7 — Practice Exam 3, with the working behind every mark.

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Numeracy — calculator	30	30

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