Maths Year 7 — Practice Exam 4 — Answers & Explanations

Answers to the 30 questions in the free preview.

Numeracy — non-calculator

1. C. 3/5
3/5 = 6/10 = 0.6. 6/100 is 0.06, and 1/6 is about 0.167.

2. C. 6 °C
The thermometer shows −3 °C, and −3 + 9 = 6, so it was 6 °C. −12 °C is 9 degrees colder, not warmer.

3. D.
A rhombus has four equal sides, shown by the matching dashes on shape D. C is a kite, with two different pairs of equal sides, and B is a trapezium.

4. D. 4d + 3
4 tickets at $d each cost 4d dollars, and the fee adds 3: 4d + 3. 4(d + 3) would charge the booking fee on every ticket.

5. C. 4200
1 m = 1000 mm, so 4.2 m = 4.2 × 1000 = 4200 mm.

6. C. 1200
10^3 = 1000, and 1.2 × 1000 = 1200.

7. Answer: 11
A is at −7 and B is at 4. From −7 up to 0 is 7, and from 0 up to 4 is 4 more: 7 + 4 = 11. Working out 4 − 7 gives −3, which ignores the minus sign on −7.

8. C. 40
One layer holds 5 × 4 = 20 cubes and the box is 2 layers high: 20 × 2 = 40. 11 adds the measurements.

9. A. 3n − 5
Three times n is 3n, and 5 less than that is 3n − 5. 5 − 3n takes 3n away from 5.

10. D. right-angled and scalene
It has a 90° angle, so it is right-angled. All three angles are different, so all three sides are different: it is scalene.

11. A. 5
3n + 4 = 19, so 3n = 15 and n = 5.

12. C. 3.48
The third decimal digit is 6, which is 5 or more, so the second decimal digit rounds up: 3.48.

13. B. 1 to 2 hours
Between 1 and 2 hours the line is flat: the distance stays at 80 km, so the car was not moving. A steep part of the graph means fast travel, not stopping.

14. Answer: 5
Start at −7 and move 12 to the right: 7 steps reaches 0, and 5 more reaches 5.

15. A. 00:25
20 minutes after 23:40 is midnight, 00:00, and 25 more minutes is 00:25.

16. C. HH, HT, TH, TT
The first coin can be H or T, and so can the second: HH, HT, TH and TT. HT and TH are different outcomes, which is why one head and one tail is twice as likely as two heads.

17. C. R
5/4 = 1 1/4 = 1.25, one quarter past 1, which is point R. Point Q is at 3/4.

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18. D.

From the front you see the tallest stack in each column: 1, 2 and 3 cubes high from left to right, which is drawing D. B shows only the front row, and A is the view from the back.

19. Answer: 6

Add 7 to both sides: $5m = 30$. Divide both sides by 5: $m = 6$. Check: $5 \times 6 - 7 = 23$.

20. Answer: 80 students

Walk is 20% of the pie chart. 20% of 400 = $0.2 \times 400 = 80$ students.

21. C. 12

y goes up by 2 each time x goes up by 1: 8 at $x = 3$, 10 at $x = 4$ and 12 at $x = 5$. The rule is $y = 2x + 2$.

22. Answer: 52

Rectangle: $8 \times 5 = 40$ cm². Triangle: $\frac{1}{2} \times 8 \times 3 = 12$ cm². Total $40 + 12 = 52$ cm².

23. C. 5

In order, the 9 values are 2, 3, 3, 4, 5, 5, 5, 6, 8. The median is the 5th value: 5. The mean is about 4.6.

24. Answer: $60

Read up from 5 hours to the line, then across: $60. (The cost is $20 plus $8 an hour.)

25. A. the 10-bar pack

Per bar: $2.40 ÷ 3 = 80c, $3.75 ÷ 5 = 75c and $7.00 ÷ 10 = 70c. The 10-bar pack is cheapest per bar.

26. A. 1/5

Those who sing but do not play are in the choir circle outside the overlap: 8 students. There are $12 + 5 + 8 + 15 = 40$ students, so the probability is 8/40 = 1/5. 13/40 includes the 5 who do both.

27. C. March

The gap between the lines is widest in March: Sydney about 140 mm and Perth about 20 mm, a difference of about 120 mm. In June the lines meet, so the difference is smallest there.

28. B. 4 pm

The plane lands at 2 pm Perth time. Sydney is 2 hours ahead, so it is 4 pm in Sydney.

29. B. (3, 1)

A moves from (−2, 1) to (1, −1): 3 right and 2 down. B moves the same way, from (0, 3) to (3, 1).

30. Answer: 110

Blue came up 22 times out of 40. 200 spins is 5 times as many, so expect about $22 \times 5 = 110$ blues.

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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 4, with the working behind every mark.

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Numeracy — calculator	30	30

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