EXAM PAPER

Maths Year 9 — Practice Exam 4

PREVIEW
This file has the first 30 of the 60 questions in this paper. The rest is locked: it comes with a PrepNest plan, or with the paper itself for VCE.

Total time: 80 minutes

SECTIONS IN THIS PAPER

- Numeracy — non-calculator — 40 min (no calculator)
- Numeracy — calculator — 40 min (calculator allowed)

INSTRUCTIONS

Answer every question you can. Write your working in the space provided for long-answer questions. Marking guidance and full explanations are provided in the separate answer key.

Numeracy — non-calculator

40 minutes • No calculator

1. What is 2/3 of 3/4?

A. 1/2

B. 5/7

C. 8/9

D. 17/12

2. What is the size of each interior angle of a regular hexagon?

A. 60°

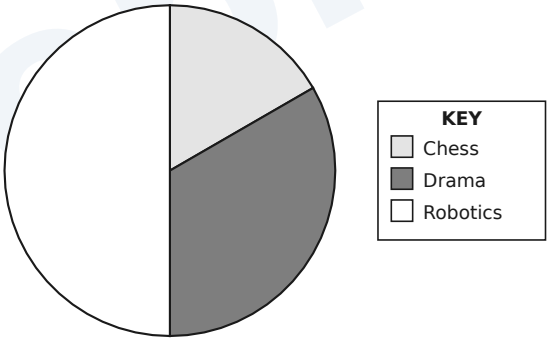
B. 108°

C. 120°

D. 135°

3. What is the mean of 3, 7, 8, 10 and 12?

4. In a survey, 1/6 of the students chose chess club.
What is the angle of the chess sector in the pie chart?



A. 6°

B. 30°

C. 60°

D. 16.7°

5. Which of these is equal to 2^{-3}?

A. −8

B. −6

C. 1/8

D. 8

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6. A train travels 150 km in 1 hour 15 minutes.
What is its average speed?

A. 100 km/h

B. 112.5 km/h

C. 120 km/h

D. 187.5 km/h

7. Which of these is a census?

A. surveying every student in the school

B. surveying 50 randomly chosen students

C. surveying the first 20 students in the canteen line

D. surveying one class

8. Which of these is equal to $3^4 \times 3^2$?

A. 3^6

B. 3^8

C. 9^6

D. 9^8

9. Which of these numbers is rational?

A. $\sqrt{49}$

B. $\sqrt{2}$

C. π

D. $\sqrt{10}$

10. This investment earns simple interest.
How much interest is earned altogether?

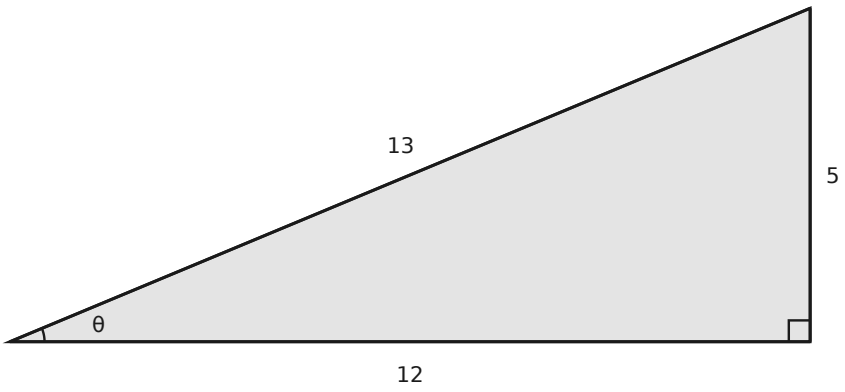
Investment

Principal	Interest rate	Time
$5000	4% per year	3 years

$

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11. What is the value of tan θ?



not to scale

A. 5/12

B. 12/5

C. 5/13

D. 12/13

12. Which of these is 0.00045 written in scientific notation?

A. 4.5×10^{4}

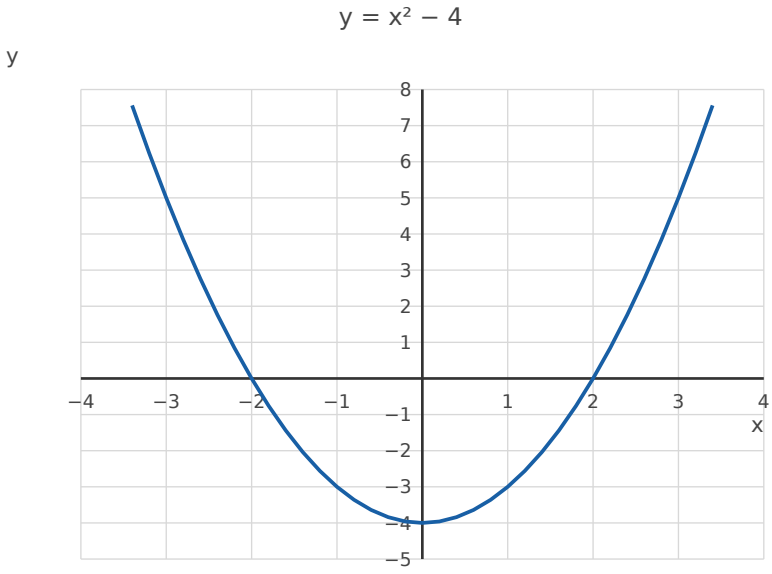
B. 4.5×10^{-4}

C. 45×10^{-5}

D. 4.5×10^{-3}

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13. Where does the graph of $y = x^2 - 4$ cross the x-axis?



A. at $x = -4$ and $x = 4$

B. at $x = -2$ and $x = 2$

C. only at $x = 0$

D. at $y = -4$

14. A map has a scale of 1 : 50 000.
Two towns are 6 cm apart on the map.
How far apart are the towns in real life?

A. 30 km

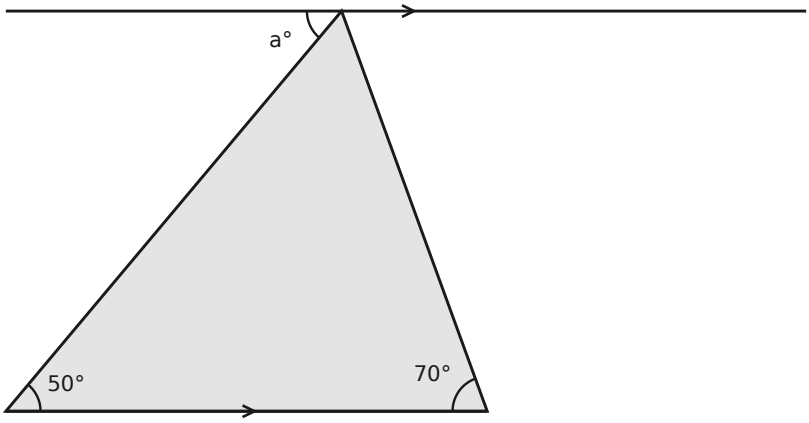
B. 300 m

C. 3 km

D. 0.3 km

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15. The two horizontal lines are parallel.
What is the value of a?



A. 60

B. 50

C. 70

D. 130

16. A bag has 3 red and 2 blue marbles. A marble is taken, replaced, and then a second marble is taken.
What is the probability that both are red?

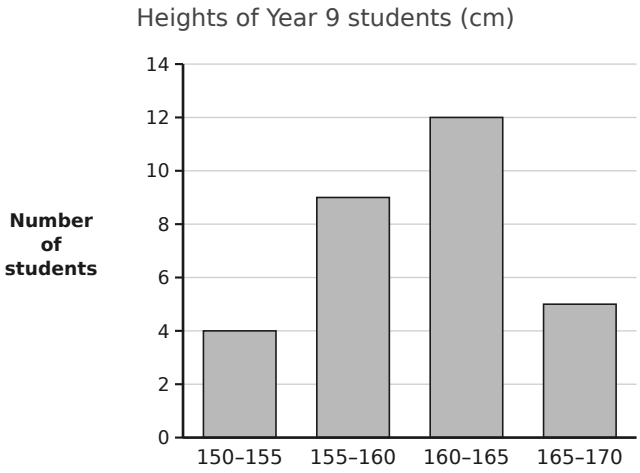
A. 9/25

B. 3/10

C. 6/25

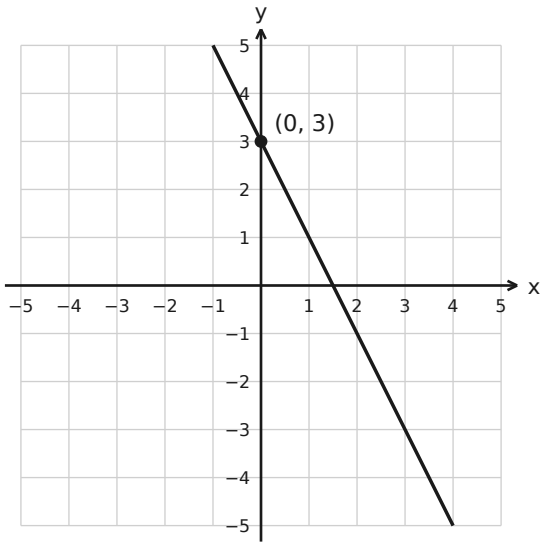
D. 3/5

17. The histogram shows students' heights. Each group includes its lower value but not its upper value.
How many students are 160 cm or taller?



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18. The line passes through (0, 3) and has a gradient of −2.
Which equation describes the line?



A. y = 3x − 2

B. y = −2x + 3

C. y = 2x + 3

D. y = −2x − 3

19. Two dice are rolled and the numbers are added.
The table shows all the possible totals.
What is the probability of a total of 8?

+	1	2	3	4	5	6
1	2	3	4	5	6	7
2	3	4	5	6	7	8
3	4	5	6	7	8	9
4	5	6	7	8	9	10
5	6	7	8	9	10	11
6	7	8	9	10	11	12

A. 5/36

B. 1/8

C. 8/36

D. 1/6

20. The pattern continues in the same way.
What is the value of the 50th term?

A number pattern

Term	1	2	3	4
Value	5	8	11	14

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21. A pencil is measured as 12 cm long, to the nearest centimetre.
What is the shortest its actual length could be?

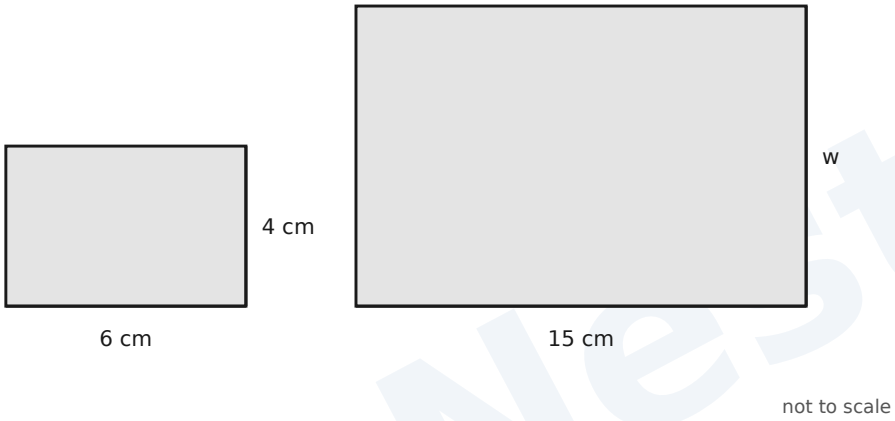
A. 11 cm

B. 11.5 cm

C. 11.9 cm

D. 12 cm

22. The two rectangles are similar. What is the value of w, in centimetres?



not to scale

23. Which of these is equal to $3^5 \div 3^{-2}$?

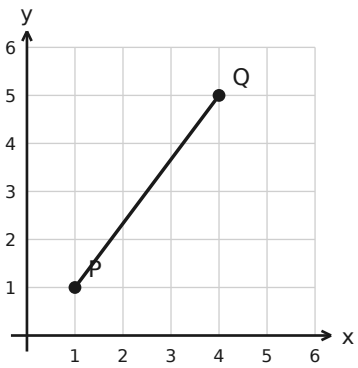
A. 3^3

B. 3^{-10}

C. 1^7

D. 3^7

24. What is the distance between P and Q?



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25. The time is 21:45. What time will it be in 3 hours 50 minutes?

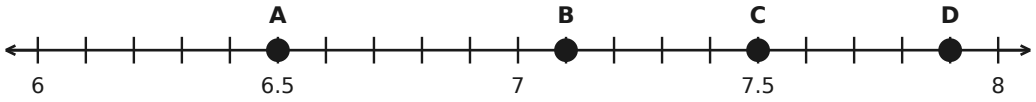
A. 00:35

B. 01:35

C. 24:95

D. 25:35

26. Which point on the number line is closest to √50?



A. A

B. B

C. C

D. D

27. Which expression is equal to 3x/4 + x/2?

A. 2x/3

B. 3x/8

C. 4x/6

D. 5x/4

28. Mia invests $2000 at 5% per year simple interest.
How much interest does she earn in 3 years?

A. $100

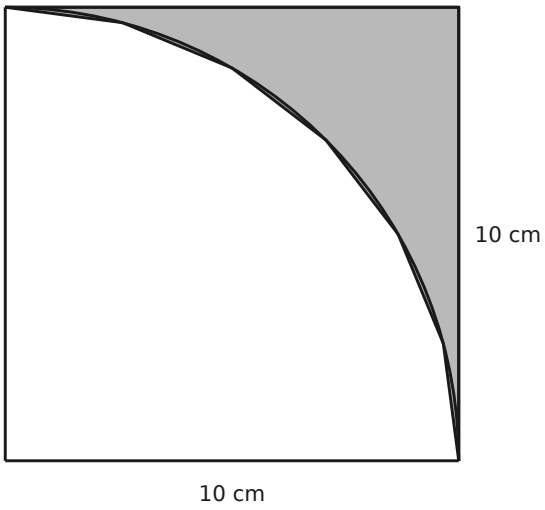
B. $300

C. $315.25

D. $2300

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29. A quarter circle of radius 10 cm is drawn inside a square of side 10 cm. The shaded part of the square lies outside the quarter circle.
What is the shaded area?



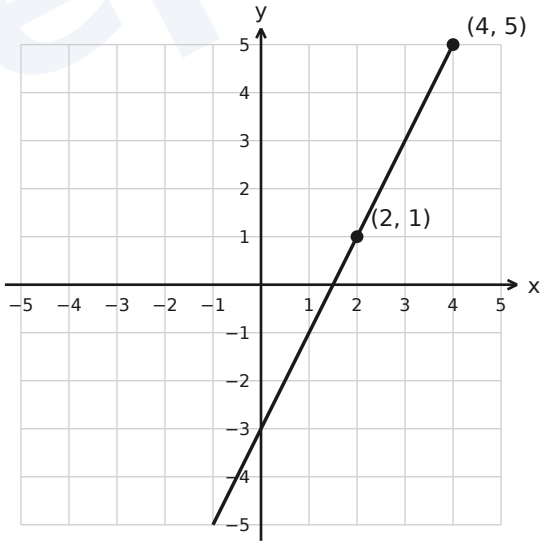
A. (100 − 25π) cm²

B. (100 − 100π) cm²

C. (100 − 50π) cm²

D. 75π cm²

30. The line passes through the points (2, 1) and (4, 5).
At what value does it cross the y-axis?



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60.

30 questions locked, up to question 60.

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PREVIEW

That’s the end of the preview

You’ve seen the first 30 of the 60 questions in Maths Year 9 — Practice Exam 4. The full paper is worth 60 marks.

STILL TO COME	QUESTIONS	MARKS
Numeracy — calculator	30	30

The full paper comes with

- Every question, printed exactly like the ones in this preview
- The complete answer key, with the working behind every mark
- A topic report after marking, showing what to practice next

Get the full paper at

prepnest.com.au/practice/exams/math-year_9-4

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