EXAM PAPER

Maths Year 9 — Practice Exam 1

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. A coin is tossed and a six-sided die is rolled.
How many different outcomes are possible?

A. 8

B. 12

C. 36

D. 2

2. Between which two consecutive whole numbers does √70 lie?

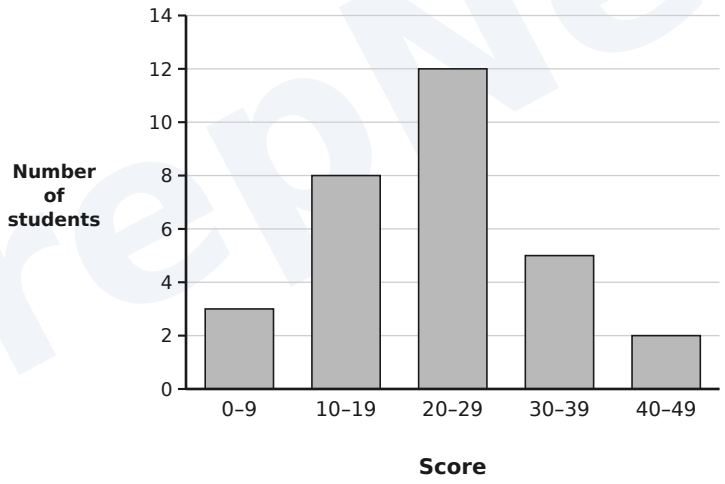
A. 7 and 8

B. 8 and 9

C. 9 and 10

D. 34 and 35

3. The graph shows the scores of a class in a quiz.
How many students scored 30 or more?



students

4. Which fraction is equal to 0.375?

A. 3/75

B. 37/100

C. 3/5

D. 3/8

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5. Which expression is the same as 3(2x − 5)?

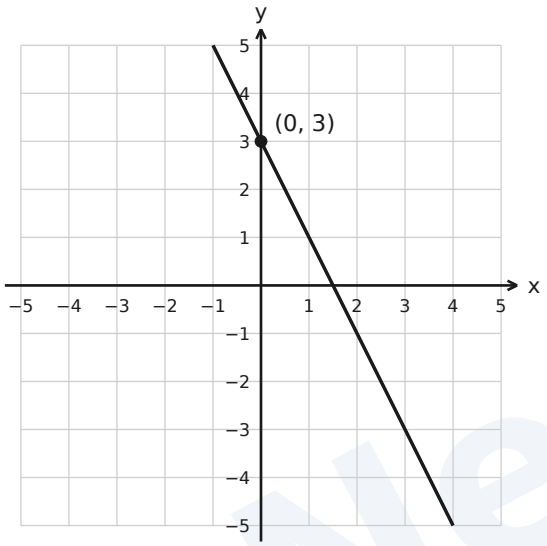
A. 6x − 5

B. 6x − 15

C. 5x − 15

D. 6x + 15

6. 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

7. 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

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8. Events A and B cannot both happen. Pr(A) = 0.3 and Pr(B) = 0.45.
What is the probability that A or B happens?

9. 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

10. Which of these numbers is irrational?

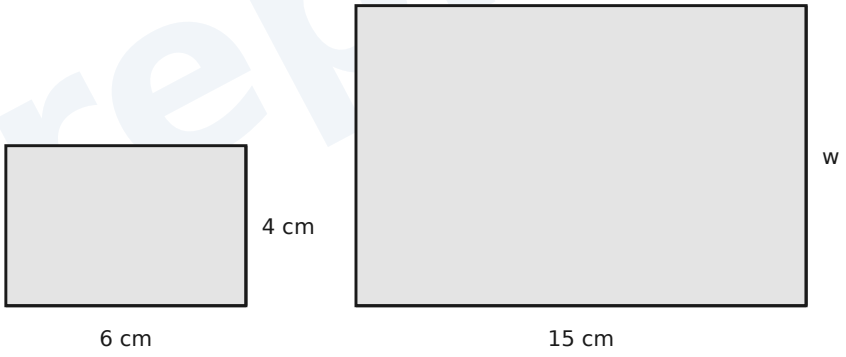
A. √49

B. 0.25

C. √20

D. 3/7

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



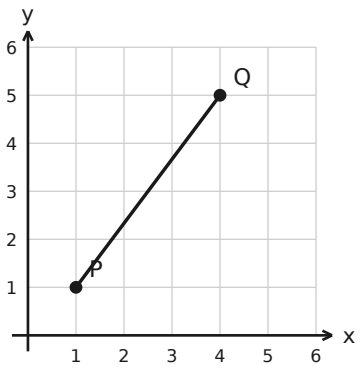
not to scale

12. What is the median of 11, 4, 9, 7, 15 and 8?

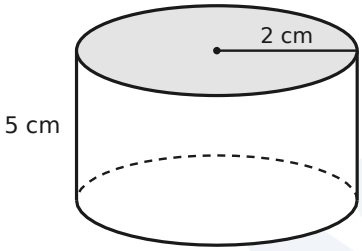
13. Solve 4(x + 2) = 2x + 14.

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14. What is the distance between P and Q?



15. What is the area of the curved surface of this cylinder, in terms of π?



A. 10π cm²

B. 20π cm²

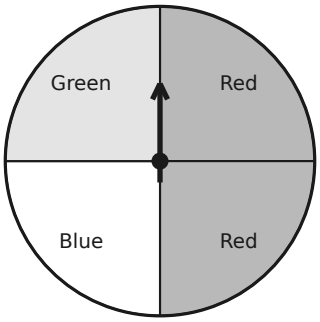
C. 28π cm²

D. 40π cm²

16. y is directly proportional to x. When x = 4, y = 10.
What is y when x = 10?

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17. The spinner is spun twice.
What is the probability that it lands on red both times?



A. 1/2

B. 1/8

C. 1/4

D. 3/4

18. What percentage of a day is 1.5 hours?

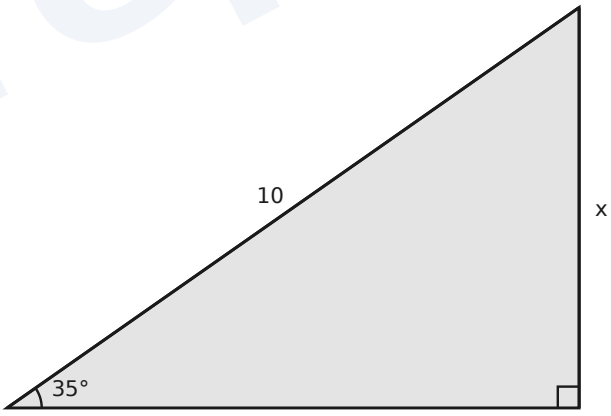
A. 1.5%

B. 6.25%

C. 15%

D. 62.5%

19. Which equation can be used to find x?



not to scale

A. x = 10 cos 35°

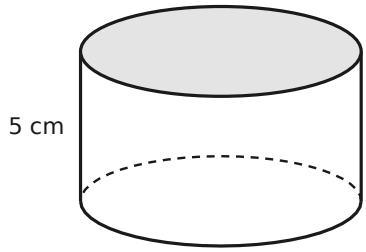
B. x = 10 tan 35°

C. x = sin 35° ÷ 10

D. x = 10 sin 35°

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20. A cylinder has a diameter of 8 cm and a height of 5 cm.
What is its volume, in terms of π?



A. 20π cm³

B. 40π cm³

C. 80π cm³

D. 320π cm³

21. The circumference of a circle is C = 2πr. Which of these makes r the subject?

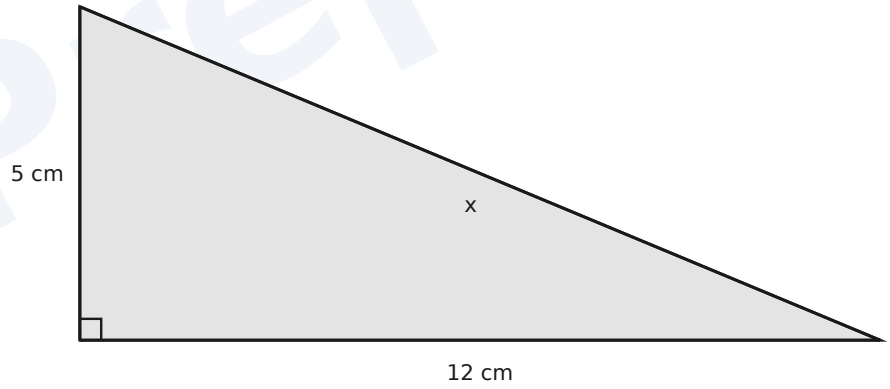
A. r = C ÷ (2π)

B. r = 2πC

C. r = C − 2π

D. r = 2π ÷ C

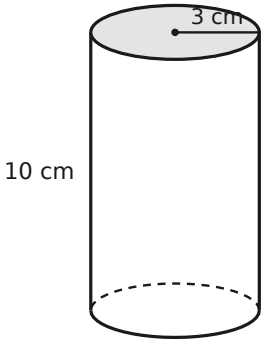
22. What is the value of x, in centimetres?



not to scale

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23. What is the volume of the cylinder?



A. 30π cm³

B. 60π cm³

C. 90π cm³

D. 900π cm³

24. Which expression is equal to $(x + 3)(x + 5)$?

A. $x^2 + 8x + 15$

B. $x^2 + 15$

C. $x^2 + 8x + 8$

D. $2x + 8$

25. What is the midpoint of the line segment joining $(-4, 6)$ and $(8, 2)$?

A. $(6, 2)$

B. $(4, 8)$

C. $(-6, 2)$

D. $(2, 4)$

26. The area of a triangle is given by $A = bh/2$.
Which of these makes h the subject?

A. $h = 2A/b$

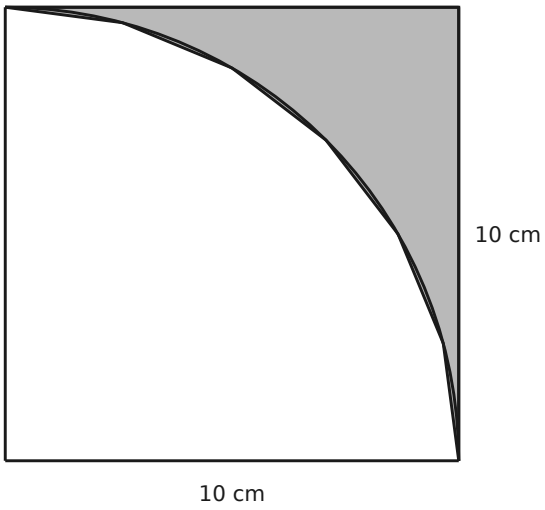
B. $h = A/2b$

C. $h = 2b/A$

D. $h = Ab/2$

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27. 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. $(100 - 25\pi)$ cm²

B. $(100 - 100\pi)$ cm²

C. $(100 - 50\pi)$ cm²

D. 75π cm²

28. A $600 television rises in price by 10%. The new price then falls by 10%.
What is the final price?

A. $540

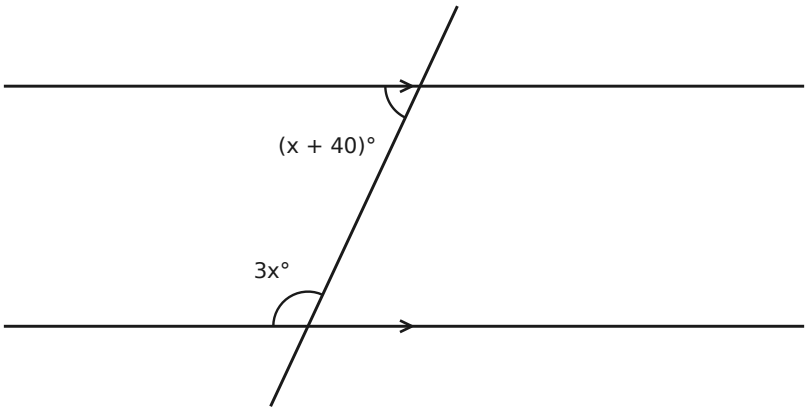
B. $594

C. $600

D. $606

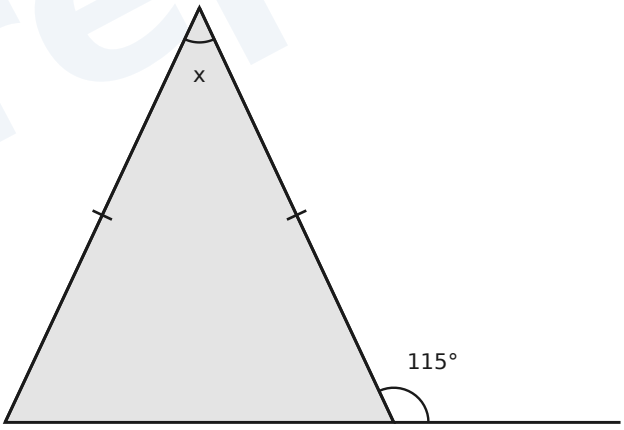
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29. The horizontal lines are parallel. What is the value of x?



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30. The triangle is isosceles and one side has been extended.
What is the value of x, in degrees?



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60.

30 questions locked, up to question 60.

PREVIEW

That’s the end of the preview

You’ve seen the first 30 of the 60 questions in Maths Year 9 — Practice Exam 1. 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_9-1

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