PRACTISE • CHECK • IMPROVE

Year 8 Mathematics

Mock Paper A

40 questions • 40 practice marks

Name: _____

Class: _____ Date: _____

How to use this paper

1. Write your answers on the two answer-sheet pages at the back. These can be detached before you start.

2. For multiple-choice questions, write one letter: A, B, C or D. For other questions, write a number, expression or short answer, with units where needed.

3. Use the question pages or extra paper for working. Diagrams are not to scale unless a measurement scale is provided.

4. Suggested practice time: 50 minutes. Your teacher will confirm the time and whether calculators are allowed. This is a classroom practice suggestion, not an official SMART rule.

5. If you get stuck, move on and return later. Check your answers when you finish.

This original mock practises a similar range of skills to the supplied Year 8 assessment. It is not endorsed by the Ministry of Education. A score out of 40 is for classroom feedback only.

01 Four overnight temperatures are -6°C, 2°C, -2°C and 5°C. Which is coldest?

A 2°C

B -6°C

C -2°C

D 5°C

02 What is the step rule for 18, 25, 32, 39, ...?

A Add 8

B Add 6

C Multiply by 7

D Add 7

03 A school buys 100 erasers at $0.48 each. Find the total cost.

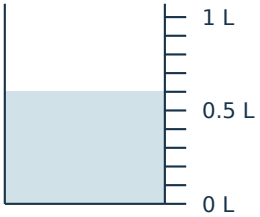
A $48

B $0.048

C $480

D $4.80

04 Read the amount of water in the measuring cylinder. Each small interval is 0.1 L.



A 0.7 L

B 0.5 L

C 6 L

D 0.6 L

05 What is the positive square root of 81?

A 9

B 8

C 18

D 40.5

06 Convert 2 450 metres to kilometres.

A 24.5 km

B 0.245 km

C 2.45 km

D 245 km

07 Write 42/56 in simplest form.

A 4/3

B 6/8

C 3/4

D 2/3

08 If y = 4x + 7 and x = 3, find y.

A 15

B 19

C 33

D 21

09 A kitchen makes 120 rolls, using 35 g of filling in each. How many grams of filling are needed?

A 4 200 g

B 155 g

C 420 g

D 3 500 g

10 Calculate 9 - 0.348.

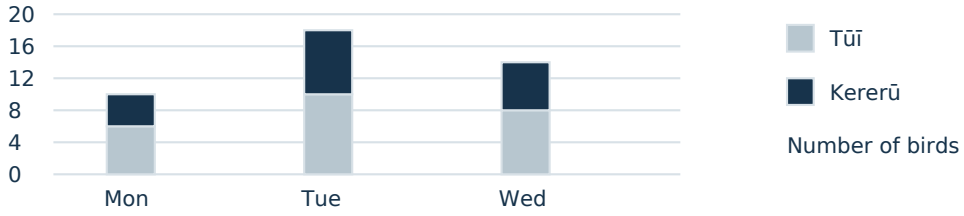
A 9.348

B 8.348

C 8.752

D 8.652

11 The stacked bars show birds observed on three days. How many kererū were seen altogether?



A 24

B 42

C 18

D 14

12 Which fraction is equal to 35%?

A 3/5

B 7/10

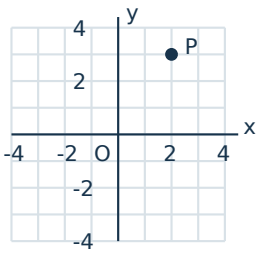
C 1/35

D 7/20

13 A bus has a 0.28 probability of arriving late. What is the probability it does not arrive late?

Answer on your answer sheet.

14 Point P is at (2, 3). Rotate it 90° clockwise about O, the origin. Write the coordinates of the image.



Each square is 1 unit.

Centre of rotation: O

Answer on your answer sheet.

15 A triangular prism has a cross-sectional area of 15 cm² and length 8 cm. Find its volume.

A 240 cm³

B 23 cm³

C 120 cm³

D 60 cm³

16 Which variable is continuous numerical data?

A Favourite colour

B Number of goals scored

C Number of pencils

D Mass of a school bag

17 Which expression equals 0.67?

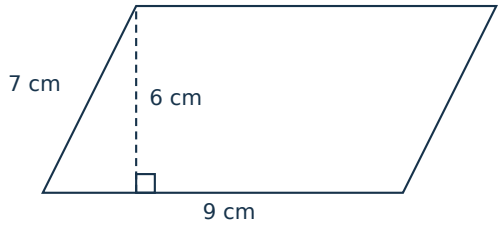
A 67×10^{-1}

B $6 \times 10^{-1} + 7 \times 10^{-2}$

C $6 \times 10^{-2} + 7 \times 10^{-1}$

D $6 \times 10^{1} + 7 \times 10^{2}$

18 Find the area of the parallelogram. The dashed height is perpendicular to the base.



Not to scale

A 54 cm²

B 42 cm²

C 27 cm²

D 63 cm²

19 Solve $t/4 + 9 = 16$.

Answer on your answer sheet.

20 Find one interior angle of a regular octagon.

Answer on your answer sheet.

21 Four identical folders and a $3 pen cost $17 altogether. Find the price of one folder.

A $3.50 B $5

C $14 D $4.25

22 One batch of 12 muffins uses 40 mL oil. A bottle holds 800 mL. What fraction of the bottle is used per batch?

A 1/20 B 1/5

C 1/2 D 1/200

23 One batch uses 140 g flour, 85 g oats and 75 g sugar. What is their total mass in kilograms?

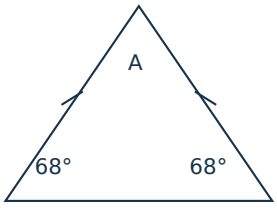
Answer on your answer sheet.

24 One batch makes 12 muffins and uses 85 g oats. How much oats is needed for 96 muffins?

A 595 g B 680 g

C 1 020 g D 816 g

25 The two equal base angles of an isosceles triangle are each 68°. Find its top angle.



Not to scale

A 44°

B 112°

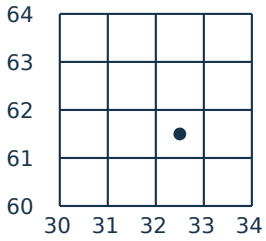
C 68°

D 56°

26 Three classes collect 144 cans. Class B collects twice as many as Class A. Class C collects 9 more than Class B. How many does Class A collect?

Answer on your answer sheet.

27 Use the map. What is the four-figure grid reference of the camp? Read eastings before northings.



N ↑

Eastings →

• Camp (dot marks the location)

A 3261

B 3262

C 6132

D 3362

28 A map scale is 1 : 20 000. A trail measures exactly 6 cm on the map. What is its real length in kilometres?

A 1.2 km

B 120 km

C 0.12 km

D 12 km

29 A walker faces south-east, then turns 270° clockwise. In which direction is the walker facing?

A East

B South-west

C North-east

D North-west

30 A candle is 47 cm tall after 1 hour, 43 cm after 2 hours and 39 cm after 3 hours. It burns at a constant rate. How tall is it after 7 hours?

Answer on your answer sheet.

31 A rectangle has width x and length 3x + 2. Write its perimeter in simplest form.

A 4x + 2

B 8x + 2

C 6x + 4

D 8x + 4

32 Studio hire includes a fixed fee. Total prices for 1, 2, 3 and 4 hours are $72, $94, $116 and $138. What is the hourly charge?

A $22

B $47

C $72

D $50

33 A team hires a studio for $94 per session, once a week for 5 weeks. Twenty members share the cost equally. How much does each pay altogether?

A $4.70
B $23.50
C $47
D $18.80

34 A studio booking costs $116 before a 25% discount. What is the discounted cost?

A $145
B $87
C $91
D $29

35 $N = 2^4 \times 3^2 \times 5$. Write $N \div 12$ as a product of prime factors.

A $2^3 \times 3 \times 5$
B $2^4 \times 5$
C $2^2 \times 3 \times 5$
D $2^2 \times 3^2 \times 5$

36 A sample of 30 shells contains 18 pipi, 6 cockles and 6 other shells. Using this sample, how many cockles would you expect among 150 shells?

A 25
B 30
C 90
D 6

37 The first sample contains 18 pipi. Four further samples have a mean of 10.5 pipi. What is the mean across all five samples?

A 14.25

B 10.5

C 12

D 11.4

38 A representative 1 m² sample contains 30 shells. Estimate how many shells lie in a rectangular area 9 m by 4 m, assuming the same average density.

Answer on your answer sheet.

39 A volunteer works 5 1/4 hours on Saturday and 3 5/6 hours on Sunday. How many more minutes are worked on Saturday?

Answer on your answer sheet.

40 Two teams score 168 points altogether. Their scores are in the ratio 3 : 4. How many points does the higher-scoring team have?

Answer on your answer sheet.

Answers 1-20

Name: _____ Class: _____

1 A / B / C / D: _____

2 A / B / C / D: _____

3 A / B / C / D: _____

4 A / B / C / D: _____

5 A / B / C / D: _____

6 A / B / C / D: _____

7 A / B / C / D: _____

8 A / B / C / D: _____

9 A / B / C / D: _____

10 A / B / C / D: _____

11 A / B / C / D: _____

12 A / B / C / D: _____

13 Answer: _____

14 Answer: _____

15 A / B / C / D: _____

16 A / B / C / D: _____

17 A / B / C / D: _____

18 A / B / C / D: _____

19 Answer: _____

20 Answer: _____

Answers 21-40

Name: _____ Class: _____

21 A / B / C / D: _____

22 A / B / C / D: _____

23 Answer: _____

24 A / B / C / D: _____

25 A / B / C / D: _____

26 Answer: _____

27 A / B / C / D: _____

28 A / B / C / D: _____

29 A / B / C / D: _____

30 Answer: _____

31 A / B / C / D: _____

32 A / B / C / D: _____

33 A / B / C / D: _____

34 A / B / C / D: _____

35 A / B / C / D: _____

36 A / B / C / D: _____

37 A / B / C / D: _____

38 Answer: _____

39 Answer: _____

40 Answer: _____