

55 minutes

Mathematics Paper 1

Stage 7

Name

Additional materials: Ruler
Tracing paper

Calculators are **not** allowed.

READ THESE INSTRUCTIONS FIRST

Answer **all** questions in the spaces provided on the question paper.

You should show all your working on the question paper.

The number of marks is given in brackets [] at the end of each question or part question.

The total number of marks for this paper is 45.

For Teacher's Use	
Page	Mark
1	
2	
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8	
9	
10	
11	
12	
Total	

- 1 The temperature in Stockholm at 06 00 is -3°C .
At 12 00 the temperature has risen by 5°C .

What is the temperature at 12 00?

..... $^{\circ}\text{C}$ [1]

- 2 Calculate.

(a) 15^2

..... [1]

(b) $\sqrt{81}$

..... [1]

- 3 Write the missing numbers.

(a) $17.26 \times 1000 =$ [1]

(b) $3.8 \div$ $= 0.038$ [1]

- 4 Kieran picks a bead out of a bag without looking.
He records the colour and replaces the bead.
Kieran does this 50 times.
He picks out a red bead 15 times.

Estimate the probability of picking a red bead.

..... [1]

5 (a) Write $\frac{27}{4}$ as a mixed number.

..... [1]

(b) Write $3\frac{4}{5}$ as an improper fraction.

..... [1]

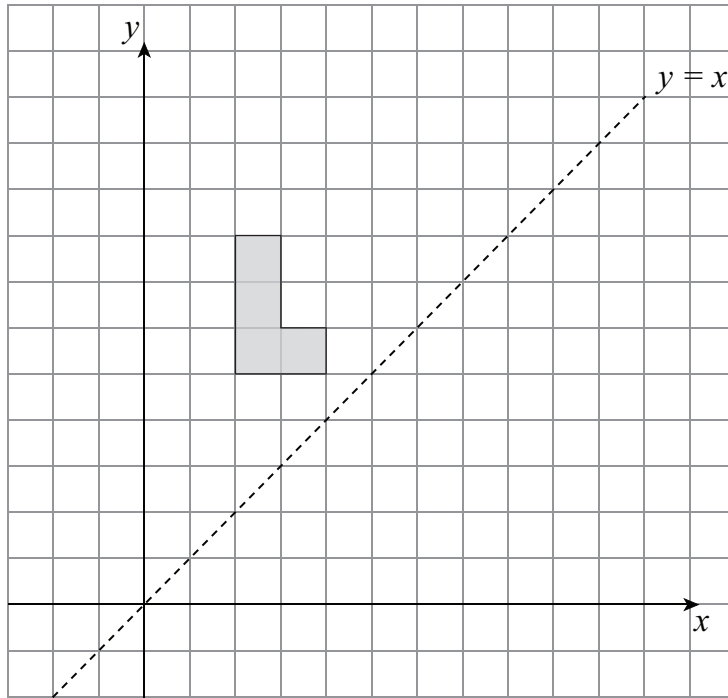
6 A book costs \$15 in a shop.
If it is bought on the internet, it costs 80% of this amount.

How much does the book cost if it is bought on the internet?

\$ [1]

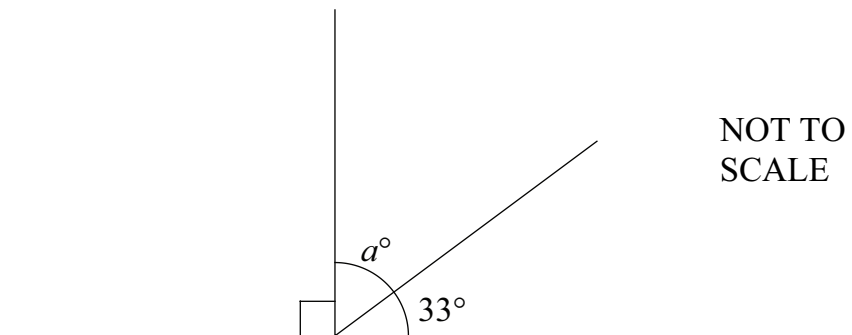
7 Look at the shape drawn on the grid.

Reflect this shape in the line $y = x$.



[1]

8 Look at the diagram.



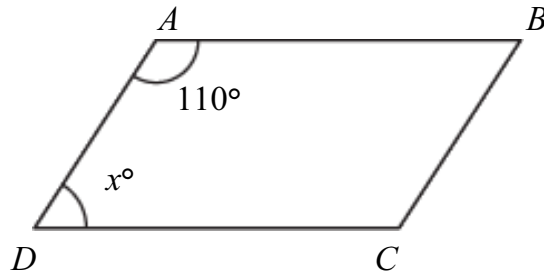
Work out the value of a .

..... ° [1]

9 Calculate $34.2 \div 6$

..... [1]

10 (a) ABCD is a parallelogram.



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Calculate the value of x .

..... [1]

(b) Karl measures the four angles of a quadrilateral as:

130° 65° 120° 55°

Fay says he has made a mistake in measuring the angles.

Is **Fay** correct? Yes/No

Explain how you know.

Because

..... [1]

- 11 The table shows the highest daily temperatures in London and in Sydney during a week in March.

	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
London	6°C	9°C	8°C	10°C	11°C	10°C	9°C
Sydney	20°C	22°C	23°C	19°C	20°C	21°C	24°C

- (a) What is the range of the temperatures in London?

.....°C [1]

- (b) What is the median temperature in Sydney?

.....°C [1]

- (c) Make **two** comments comparing the temperatures in London and Sydney during this week.

.....
..... [2]

- 12 Write brackets in the calculation to make it correct.

$$18 + 7 \div 3 + 2 = 5$$

[1]

- 13 A furniture manufacturer needs 12 screws when making a table.

- (a) Put a ring round the formula that gives the total number of screws (y) needed to make x tables.

$$y = 12 + x \quad y = 12 \div x \quad y = 12x \quad y = 12 - x$$

[1]

- (b) Use the formula to calculate the number of screws needed for 20 tables.

.....screws [1]

- 14 The table shows some information about triangles A, B, C and D.

Triangle	Angles	Type of Triangle		
		Scalene	Right angled	Isosceles
A	90°, 30°, 60°	✓	✓	✗
B	50°, 80°, 50°			
C	45°, 90°, 45°			
D	40°, 60°, 80°			

Complete the table using ticks (✓) and crosses (✗).
The first row has been done for you.

[2]

- 15 Ali has some sweets.

He gives $\frac{1}{8}$ of them to Suzi and $\frac{1}{4}$ of them to Tom.

What fraction of the sweets does Ali have left?

Show your working.

..... [2]

- 16 The table shows some information about 3D shapes.

Complete the table.

Name of shape	Number of faces	Number of vertices	Number of edges
Square based pyramid	5	5	
	6	8	12
Triangular prism	5		9

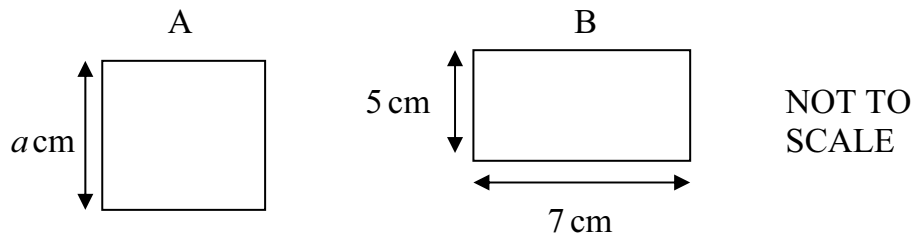
[2]

- 17 Draw lines to join the calculations that have the same answer.
One has been done for you.

$\frac{1}{4}$ of 28		10% of 100
$\frac{1}{2}$ of 20	—	30% of 20
$\frac{2}{3}$ of 12		20% of 35
$\frac{2}{5}$ of 15		

[2]

- 18 Look at the shapes A and B.



A is a square.
B is a rectangle.
A and B have the same perimeter.

Work out the length of a ?
Show your working.

..... cm [2]

- 19 A theatre has seats arranged in rows of 24
382 people attend a show at the theatre.

What is the smallest number of rows that is needed to seat these people?
Show your working.

..... rows [2]

- 20 Write the ratio 42 : 24 in its simplest form.

..... : [1]

- 21 Put a ring round all the fractions that are equivalent to $\frac{3}{5}$

$\frac{16}{30}$ $\frac{12}{20}$ $\frac{14}{25}$ $\frac{28}{35}$ $\frac{9}{15}$

[1]

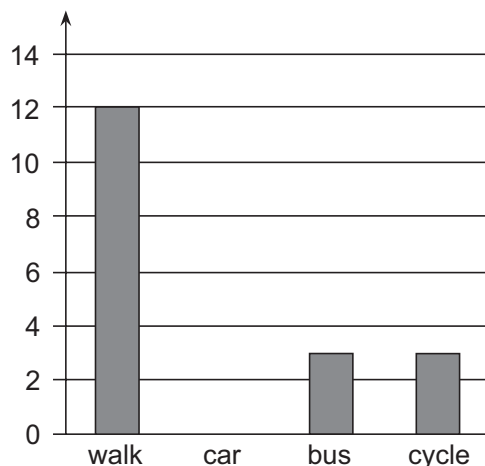
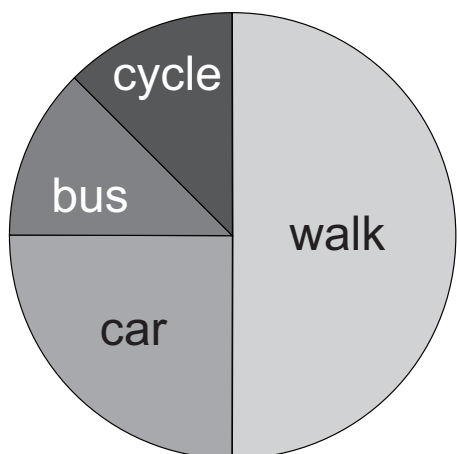
- 22 Lucy buys a scarf for \$7.48 and a skirt for \$24.65

How much change does she get from a \$50 note?
Show your working.

\$ [2]

23 Farhan asks all the students in his class how they travel to school. He shows his results in a pie chart and on a bar chart.

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(a) Complete the bar chart. [1]

(b) How many students are there in Farhan's class?

..... students [1]

24 A fruit drink is made by mixing juice and water in the ratio 2 : 9

(a) How many litres of water are mixed with 6 litres of juice?

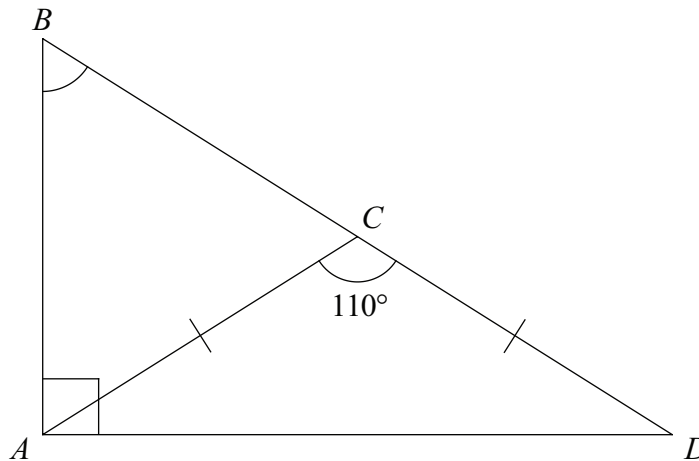
..... litres [1]

(b) How many litres of juice are needed to make 44 litres of the drink?

..... litres [1]

25 Look at the diagram.

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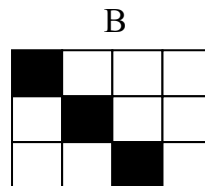
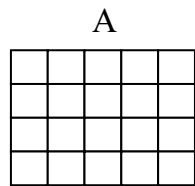
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ABD is a right-angled triangle.
 ACD is an isosceles triangle with $AC = CD$.
 Angle $ACD = 110^\circ$

Work out angle ABD .

.....^o [2]

26 Look at rectangles A and B.



Shade some squares in rectangle A so that the percentage of shaded squares is the same in both rectangles.

[1]

27 The table shows the attendances at four soccer matches.

Match	Attendance
A	5472
B	4094
C	6149
D	4765

Harry says that if the attendance figures are rounded to the nearest 1000, **two** matches have the same attendance.

Is Harry correct? Yes/No
Explain your answer.

Because

..... [1]

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