

2009 School Certificate Test
Mathematics

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Centre Number

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Student Number

Section 1

25 marks

Time allowed for this section is 30 minutes

Answer Questions 1–25 in the spaces provided

Each question is worth 1 mark

Calculators are NOT to be used in this section

There will be a short break between Section 1 and Section 2

Answer the questions in the spaces provided.

1 $12 - 3 \times 2 =$

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2 $a \div a =$

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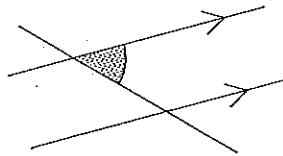
3 Helen is paid \$210 for working a seven-hour shift.

What is her hourly rate of pay?

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4 On the diagram below, mark with a cross the alternate angle to the one shaded.



5 A train timetable from Richmond to Town Hall is shown.

Richmond to Town Hall							
	pm	pm	pm	pm	pm	pm	pm
Richmond		6.24		6.54			7.26
Blacktown	6.55	7.06	7.25	7.36	7.53	7.55	8.06
Parramatta	7.09	7.24	7.39	7.54	8.03	8.09	8.24
Granville	7.12	7.28	7.42	7.58	8.05	8.12	8.28
Lidcombe	7.20	7.33	7.50	8.03		8.20	8.33
Strathfield	7.26	7.39	7.56	8.10	8.16	8.26	8.40
Redfern	7.37	7.51	8.07	8.22		8.37	8.52
Central	7.40	7.54	8.10	8.25	8.30	8.40	8.55
Town Hall	7.43	7.57	8.13	8.28		8.43	8.58

Nicole arrives at Richmond station at 6.28 pm to catch a train to Town Hall.

According to the timetable, what is the earliest time she can arrive at Town Hall?

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- 6 Dale's waist measures 102 centimetres. After going to the gym regularly, he loses 8 centimetres from his waist.

What is his new waist measurement?

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- 7 Telegraph poles are to be placed 50 metres apart along the length of a one-kilometre road. A pole is to be placed at the start and at the end of the road.

How many telegraph poles are needed?

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- 8 During a tennis match, information on Doug's serve is recorded in the table shown.

<i>Type of serve</i>	<i>Frequency</i>
Fault	25
Let	2
Good	50
Ace	13

What is the probability that Doug will serve an ace on his next serve?

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- 9 A dress valued at \$80 is discounted by \$4.

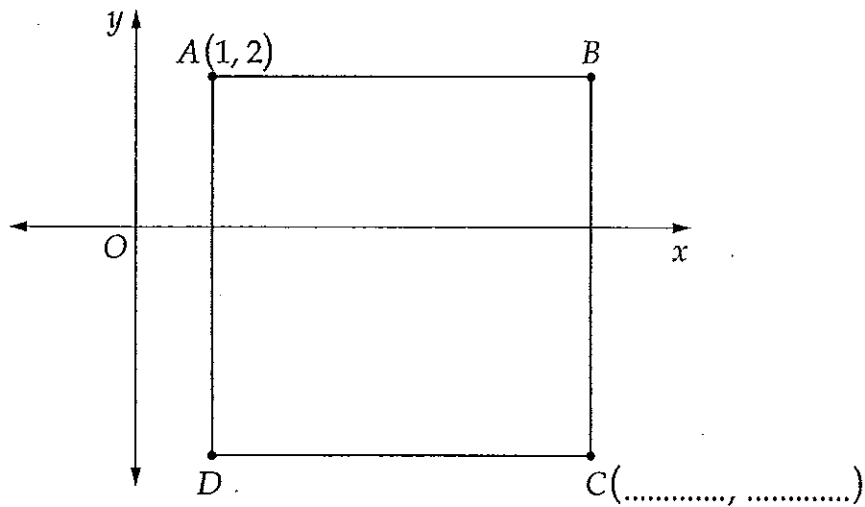
What is the percentage discount on the dress?

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- 10 $ABCD$ is a square with sides of length 5 units.

Write in the brackets the coordinates of point C .



- 11 This table shows admission prices at the movies.

	<i>Monday, Wednesday, Thursday, Sunday</i>	<i>Friday, Saturday</i>	<i>Tuesday</i>
Adult	\$16.00	\$16.50	\$10.00
Concession	\$13.50	\$14.00	\$10.00
Child	\$13.00	\$13.50	\$8.00

Two adults and three children intend to go to the movies.

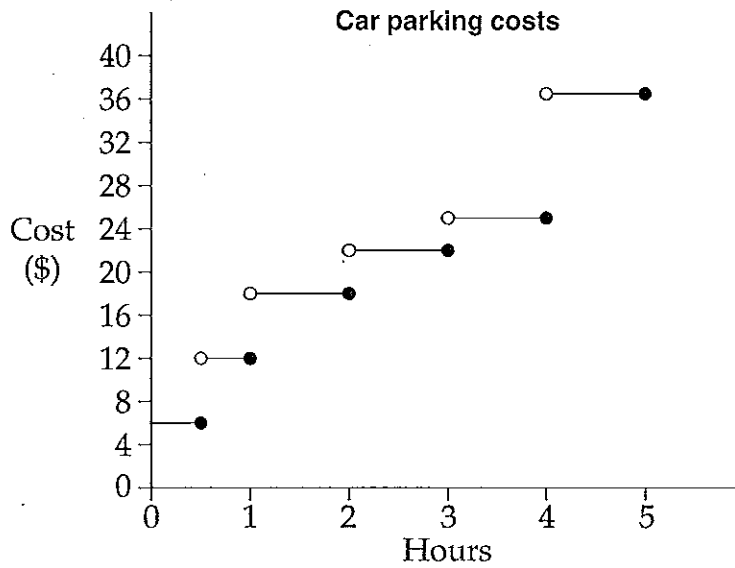
How much would they save if they go on a Tuesday rather than a Wednesday?

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- 12 Write 12.5% as a decimal.

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- 13 The following step graph shows car parking costs.



On leaving the car park at 1.15 pm, Kasey was charged \$22.

What was the earliest time that Kasey could have entered the car park?

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- 14 What is the cost of 20 litres of petrol at 139.9 cents per litre?

Answer to the nearest dollar.

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- 15 There are 12 teams in a competition. Liz states that her team must therefore have a one in twelve chance of winning the competition.

Explain why Liz's statement is incorrect.

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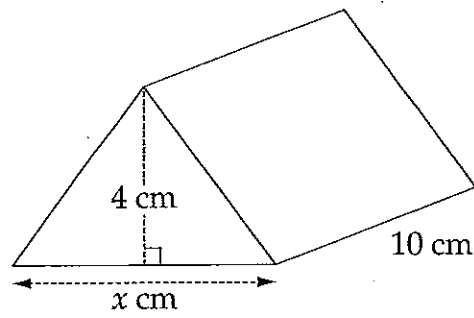
- 16 The ratio of Luke's height to Ben's height is 11 : 12.

If the difference in their heights is 15 centimetres, how tall is Ben?

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- 17 This triangular prism has a volume of 100 cm^3 .



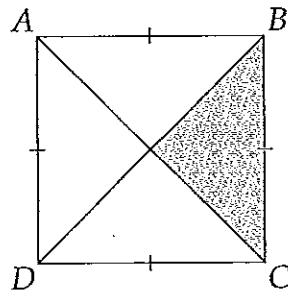
NOT TO
SCALE

What is the value of x ?

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- 18 $ABCD$ is a square. The shaded area is 25 cm^2 .

What is the perimeter of the square?

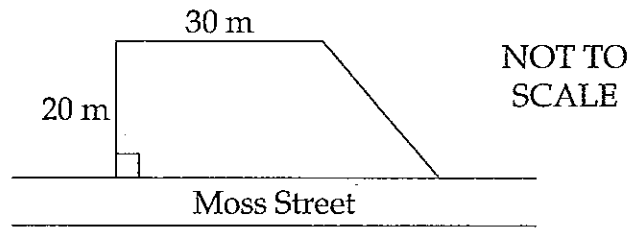


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- 19 Convert 0.3 hours to minutes.

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- 20 This is a plan of a property with an area of 740 m^2 .



The property is in the shape of a trapezium. A fence is built along the boundary on Moss Street.

Calculate the length of the fence along Moss Street.

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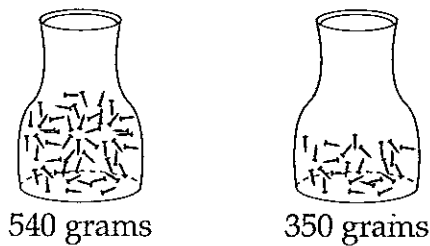
- 21 How many times must 4 be subtracted from 4^3 to give an answer of zero?

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- 22 A jar contains 50 nails. The jar and the nails together weigh 540 grams. When 25 nails are removed, the jar and the remaining nails now weigh 350 grams.



How much does the jar weigh when all the nails are removed?

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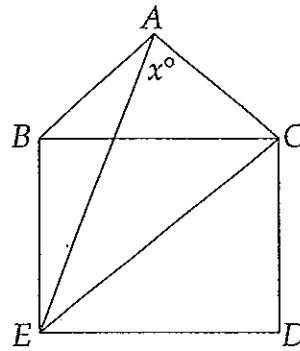
- 23 The fraction $\frac{4}{\square}$ lies between the fractions $\frac{1}{2}$ and $\frac{2}{3}$.

Which whole number is represented by \square ?

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- 24 ABC is an equilateral triangle. $BCDE$ is a square.



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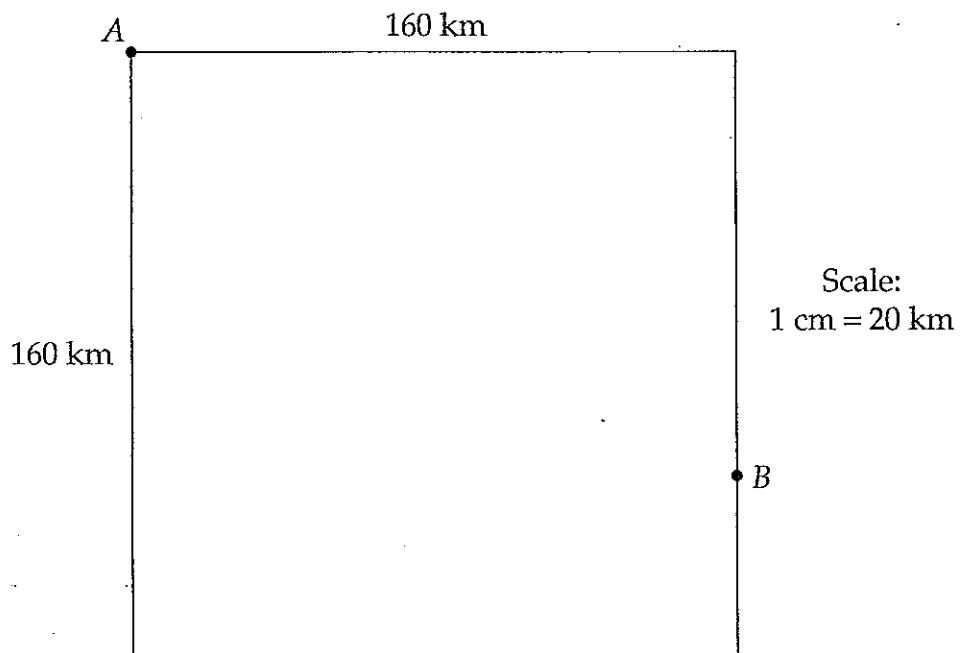
What is the value of x ?

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- 25 A national park is in the shape of a square, each side measuring 160 km.

Towers are built at A and B to spot bushfires within the national park. Bushfires can be seen up to 120 km from the towers.



Using your geometrical instruments, shade the region where a bushfire can be seen from both towers A and B .

End of Section 1