

Volume and Surface Area ~~Calculator~~ of Prisms Test

Year
10

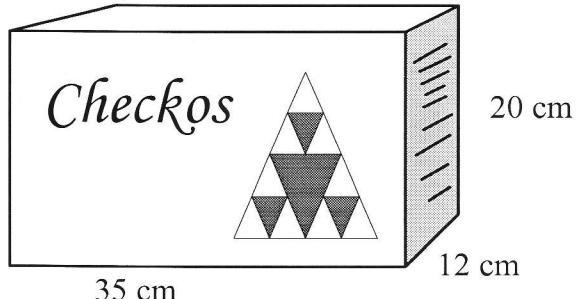
Short Answer Section

Name : _____

Write all working and answers in the spaces provided on this test paper.

1. What is the volume of this cereal box?

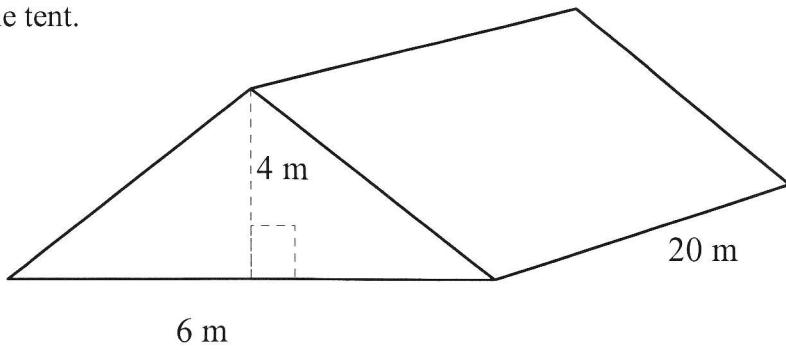
$$V = 20 \times 12 \times 35 \\ = 8400 \text{ cm}^3$$



2. What is the surface area of the cereal box in Question 1?

$$SA = 12 \times 35 \times 2 + 20 \times 35 \times 2 + 12 \times 20 \times 2 \\ = 840 + 1400 + 480 \\ = 2720 \text{ cm}^2$$

3. This tent is used at a cadet's camp and is made of canvas. Find the volume of air inside the tent.



$$V = \frac{1}{2} \times 6 \times 4 \times 20 = 240 \text{ m}^3$$

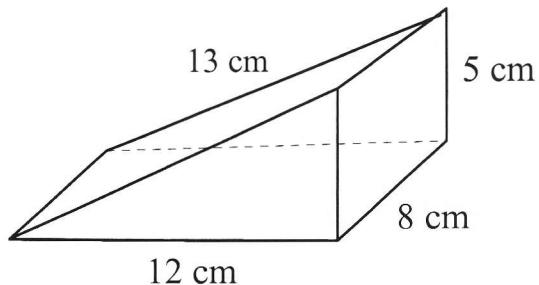
4. Find the area of canvas in the tent in question 3. There is no floor in the tent.

$$SA = \frac{1}{2} \times 6 \times 4 \times 2 + 5 \times 20 \times 2 \\ = 24 + 200 \\ = 224 \text{ m}^2$$

Volume and Surface Area of Prisms Test

5. Find the surface area of the triangular prism shown?

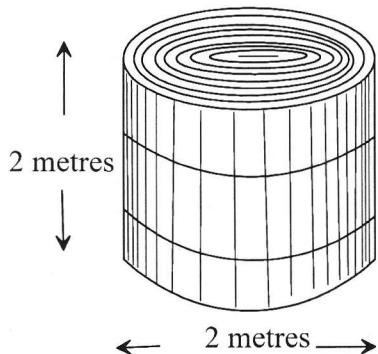
$$\begin{aligned}
 SA &= \frac{1}{2} \times 12 \times 5 \times 2 \\
 &\quad + 5 \times 8 + 12 \times 8 + 13 \times 8 \\
 &= 60 + 40 + 96 + 104 \\
 &= 300 \text{ m}^2
 \end{aligned}$$



6. Hay is bound in cylindrical bales.

What volume of hay is in the bale?

$$\begin{aligned}
 V &= \pi r^2 h \\
 &= \pi \times 1^2 \times 2 \\
 &= 6.28 \text{ m}^3
 \end{aligned}$$



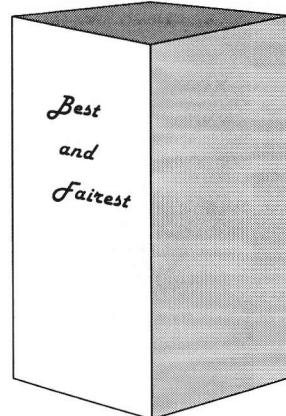
7. The bale in question 6 is to be covered in plastic to protect it from the weather. What area of plastic is needed for the bale?

$$\begin{aligned}
 SA &= 2\pi r^2 + 2\pi r h \\
 &= 2 \times \pi \times 1^2 + 2 \times \pi \times 1 \times 2 = 18.85 \text{ m}^2
 \end{aligned}$$

8. A bronze trophy is in the shape of a prism with a rhombus as its base.

The diagonals of the rhombus are 12 cm and 5 cm and the height of the trophy is 18 cm.

What volume of bronze is needed to make the trophy?



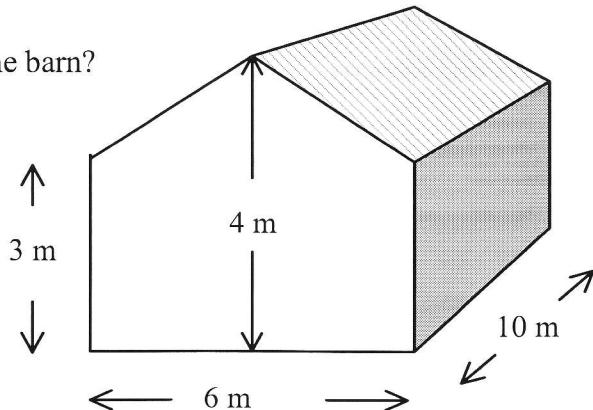
$$\text{Area rhombus} = \frac{1}{2} \times 5 \times 12 = 30 \text{ cm}^2$$

$$\text{Volume} = Ah = 30 \times 18 = 540 \text{ cm}^3 \text{ of bronze.}$$

Volume and Surface Area of Prisms Test

9. A barn has the dimensions shown.

What is the volume of air inside the barn?

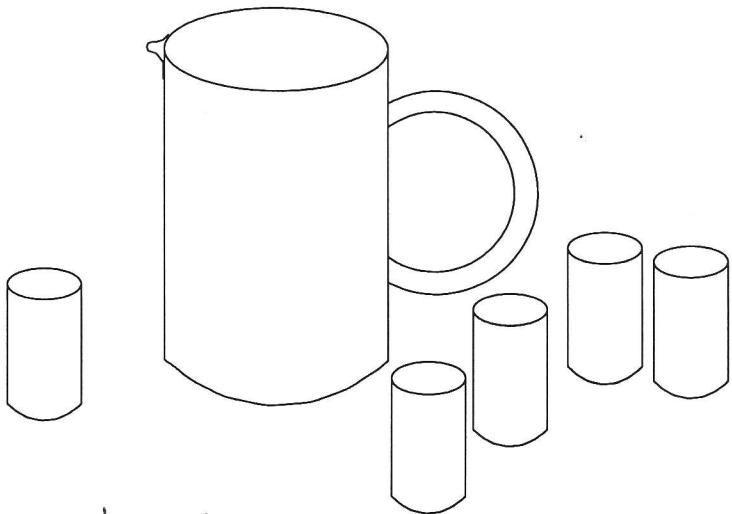


$$A = 3 \times 6 + \frac{1}{2} \times 6 \times 1 \\ = 18 + 3 = 21 \text{ m}^2$$

$$\text{Volume} = 21 \times 10 \\ = 210 \text{ m}^3$$

10. A jug for cordial is an elliptical prism, the ellipse having an area of 200 cm^2 . The height of the jug is 15 cm.

Given that 1 cm^3 holds 1 ml, how many 250 mL glasses could be filled from the jug?



$$\text{Volume jug} = \text{Area} \times \text{height} \\ = 200 \times 15 = 3000 \text{ cm}^3 = 3000 \text{ ml.}$$

$$\text{No. glasses} = 3000 \div 250 \\ = 12 \text{ glasses}$$

Volume and Surface Area
of Prisms Test

Year

10

Calculator

Multiple Choice Section

Name : _____

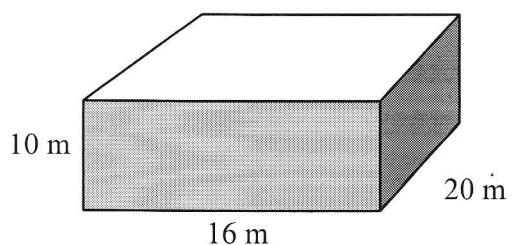
Mark all your answers on the accompanying multiple choice answer sheet, not on this test paper. You may do any working out on this test paper. Calculators are allowed for this section.

1. How many square millimetres in 4 square centimetres?

A. 40 B. 400 C. 4000 D. 0.4

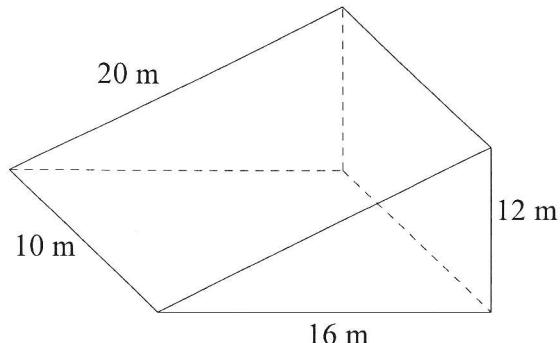
2. What is the volume of this rectangular prism?

A. 680 cm^3
 B. 1360 cm^3
 C. 1600 cm^3
 D. 3200 cm^3

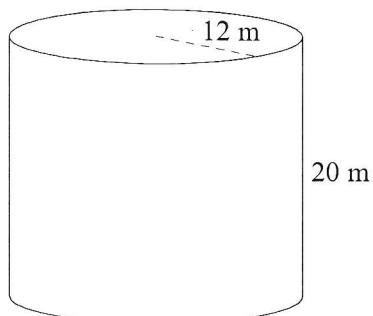


3. What is the volume of this triangular prism?

A. 960 cm^3
 B. 1600 cm^3
 C. 1920 cm^3
 D. 3840 cm^3



4. What is the volume of the cylinder shown?



A. 2262 m^3 B. 36191 m^3 C. 2369 m^3 D. 9048 m^3

Volume and Surface Area of Prisms Test

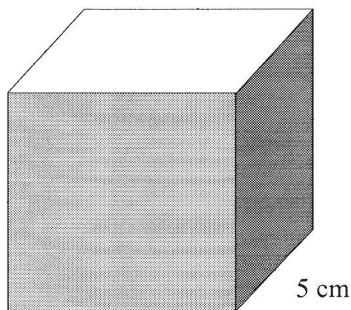
5. The surface area of the cube is

A. 25 cm

B. 25 cm^2

C. 150 cm

D. 150 cm^2



6. The open carton shown is used for packing fruit.

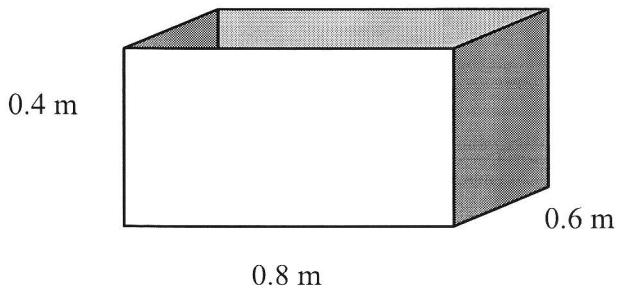
What is the surface area of the carton in square metres?

A. 0.2 m^2

B. 1.6 m^2

C. 2.1 m^2

D. 0.8 m^2



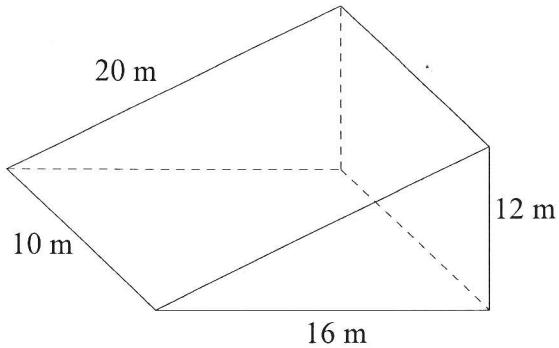
7. The surface area of the triangular prism is:

A. 672 m^2

B. 576 m^2

C. 960 m^2

D. 512 m^2



8. The water tank is in the shape of a prism.

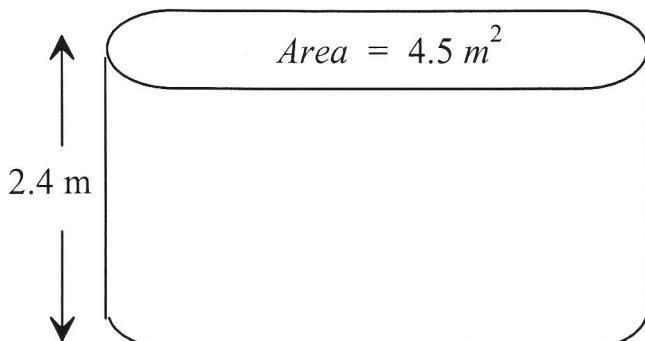
The area of its cross section is 4.5 m^2 . If one cubic metre holds 1000 litres of water, how many litres does the tank hold?

A. 10.8 litres.

B. 33.9 litres.

C. 5 400 litres.

D. 10 800 litres.



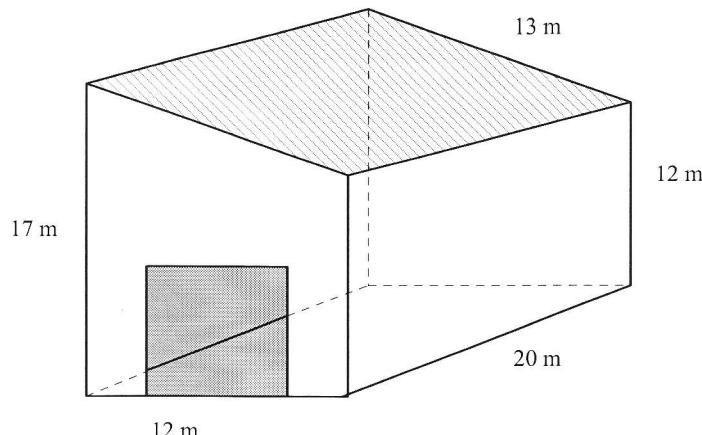
Volume and Surface Area of Prisms Test

9. The industrial shed has 2 walls which are trapezoidal and 2 which are rectangular.

There is a steel door which has an area of 18 m^2 .

The walls are to be clad in fibre board.

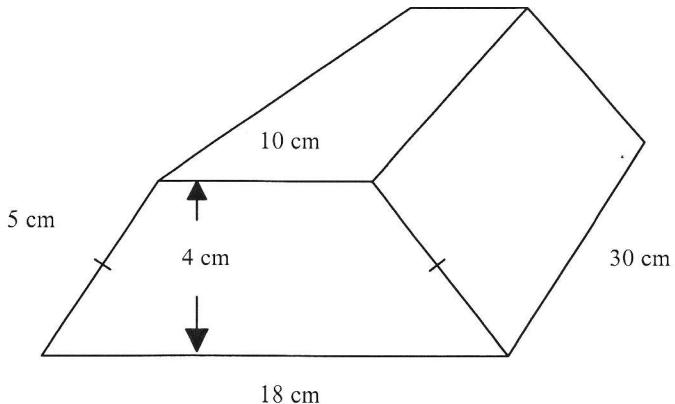
What is the total wall area to be clad?



- A. 348 m^2 . B. 588 m^2 . C. 910 m^2 . D. 928 m^2 .

10. This carton is made to hold a child's toy, and is made of plastic. Find the area of plastic in the carton.

- A. 56 m^2
 B. 1140 m^2
 C. 1196 m^2
 D. 1252 m^2



Trigonometry
Applications Test
Year 10
Short Answer Section

Calculator

Name : _____

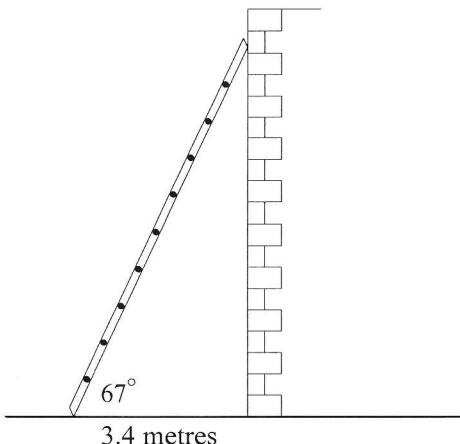
Write all working and answers in the spaces provided on this test paper.

1. A ladder stands with its base 3.4 metres from the base of a wall and makes an angle of 67° with the ground. How far does it reach up the wall?

$$\tan 67^\circ = \frac{x}{3.4}$$

$$x = 3.4 \tan 67^\circ$$

$$x = 8.0 \text{ m}$$

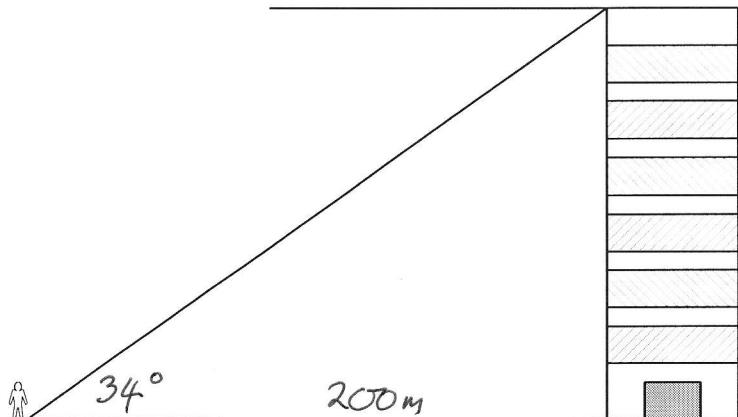


2. From a point 200 m from the base of the building, Hettie measures the angle of elevation to be 34° . What is the height of the building?

$$\tan 34^\circ = \frac{h}{200}$$

$$h = 200 \tan 34^\circ$$

$$= 135 \text{ m}$$

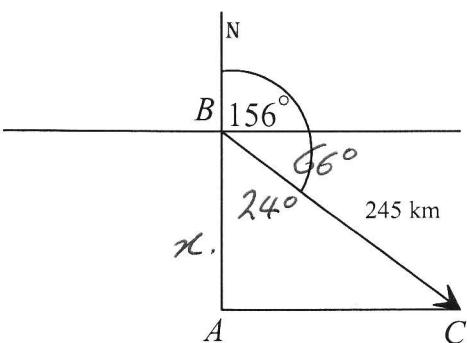


3. A ship sails from B to C on a bearing of 156° for a distance of 245 km at which time it is due east of A . How many kilometres is A south of B ?

$$\cos 24^\circ = \frac{x}{245}$$

$$x = 245 \cos 24^\circ$$

$$= 224 \text{ km south}$$

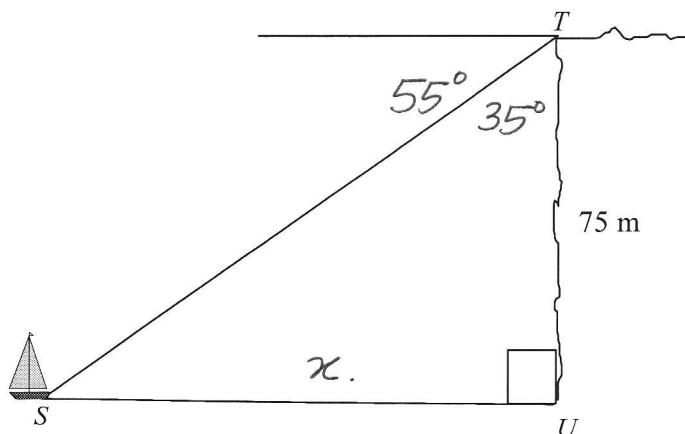


4. From the top of a 75 metre cliff, Keith measures the angle of depression of a boat out to sea to be 55° . How far is the boat from the foot of the cliff?

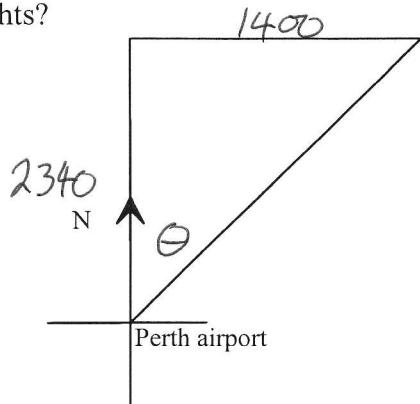
$$\tan 35 = \frac{x}{75}$$

$$x = 75 \tan 35$$

$$= 52.5 \text{ m}$$



5. An aircraft flies 2 340 km north from Perth airport and then it then turns and flies 1 400 km east. What is the bearing of the plane from Perth airport after these flights?



$$\tan \theta = \frac{1400}{2340}$$

$$= 0.598$$

$$\theta = 31^\circ$$

Bearing is 031°

6. Andrew attaches a rope to the ground 6.5 metres from the base of a building and attaches the other end to the top of the building. The rope makes an angle of 76° with the ground. How long does the rope need to be if it requires 1 metre at each end to attach it?

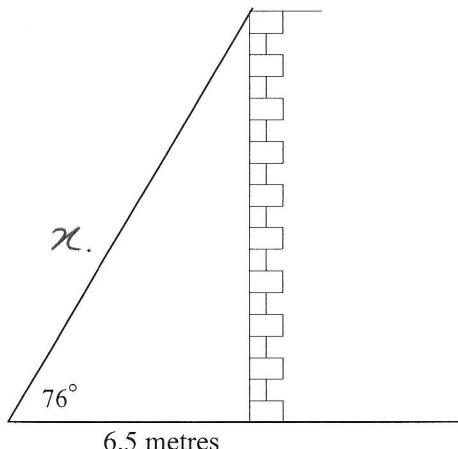
$$\cos 76 = \frac{6.5}{x}$$

$$x = \frac{6.5}{\cos 76}$$

$$= 26.9 \text{ m}$$

$$\text{length} = 26.9 + 2$$

$$= 28.9 \text{ m}$$



**Trigonometry
Applications Test**

Calculator

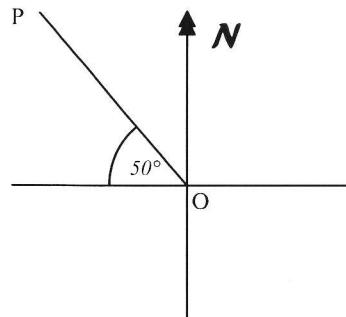
Year 10 **Multiple Choice Section**

Name : _____

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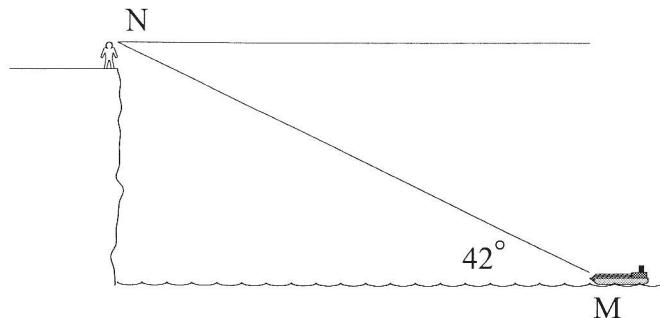
1. The bearing of P from Q is

- A. 040°
 B. 050°
 C. 310°
 D. 320°

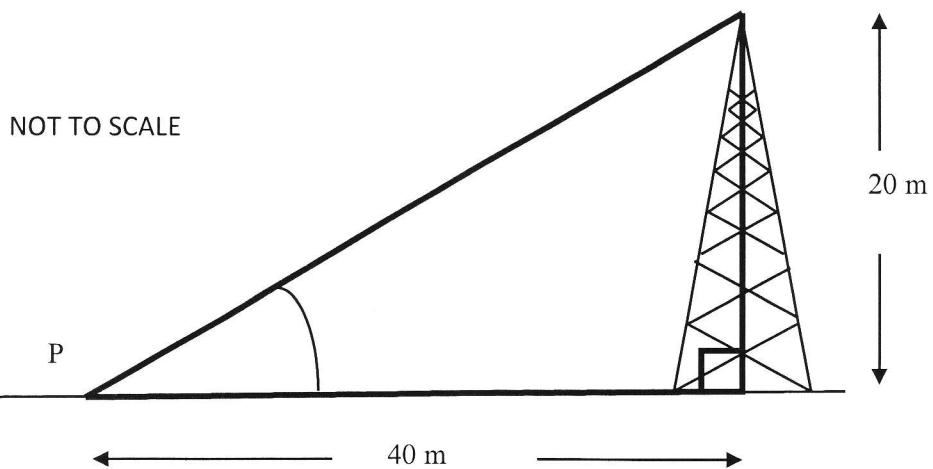


2. The angle of depression of M from N is:

- A. 42°
 B. 48°
 C. 132°
 D. 138°



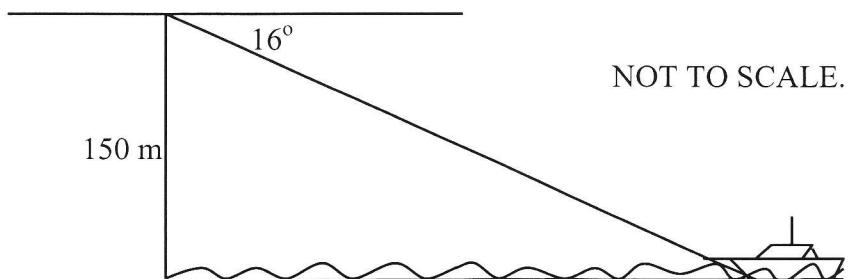
3. The angle of elevation of the top of the tower from the point P on level ground (to the nearest degree) is:



- A. 30° B. 27° C. 60° D. 63°

Trigonometry Applications Test

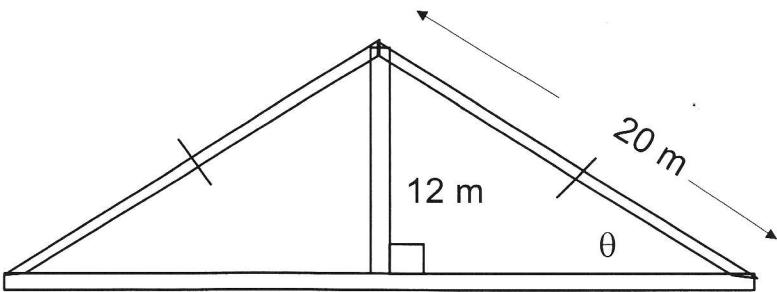
4. The cliff is 150 m high and the angle of depression of the boat is 16° . The distance of the boat from the bottom of the cliff is:



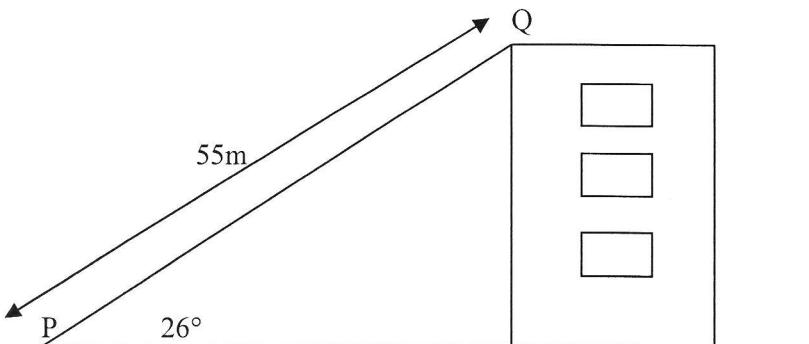
- A. 43 m B. 144 m C. 41 m D. 523 m

5. A section of a roof truss is shown. What is the slope of the roof (θ)?

- A. 37°
 B. 49°
 C. 22°
 D. 53°



- 6.



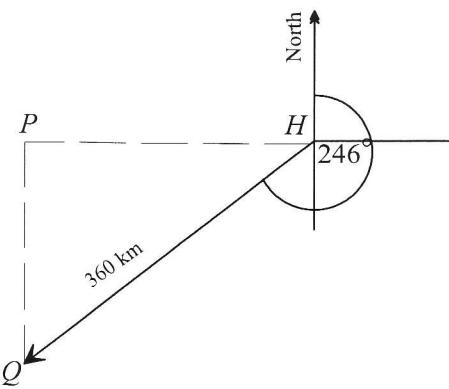
A 55 metre long rope is connected from Q on the top of the building to P on the ground. The angle of elevation of the rope is 26° . What is the height of the building?

- A. 125 m B. 49 m C. 27 m D. 24 m

Trigonometry Applications Test

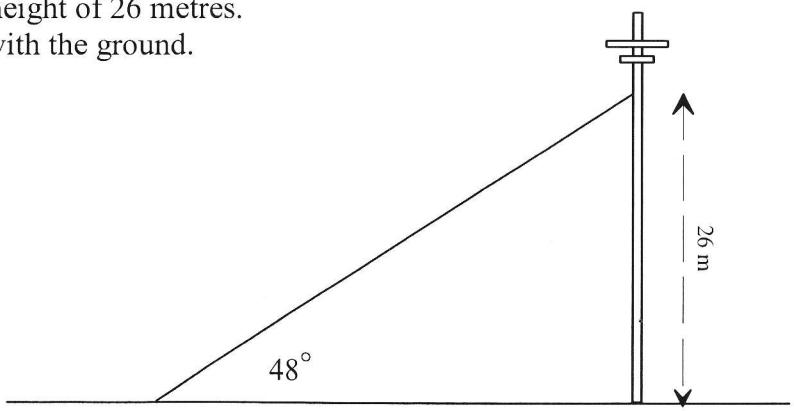
7. A ship Q leaves Hobart (H) and sails 360 km on a bearing 246° . It is then due south of another ship (P). How far is P from Hobart (H)?

- A. 329 km
B. 146 km
C. 394 km
D. 885 km



8. A cable is attached to a mast at a height of 26 metres. The cable makes an angle of 48° with the ground. What is the length of the cable?

- A. 17 m
B. 19 m
C. 35 m
D. 39 m



Pythagoras Test

Calculator

Year

9

Short Answer Section

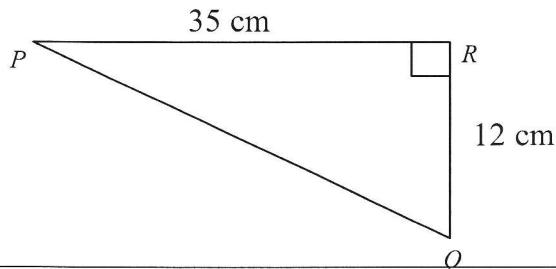
Name : _____

Write all working and answers in the spaces provided on this test paper.

1. Find the length of the hypotenuse PQ in the triangle PQR .

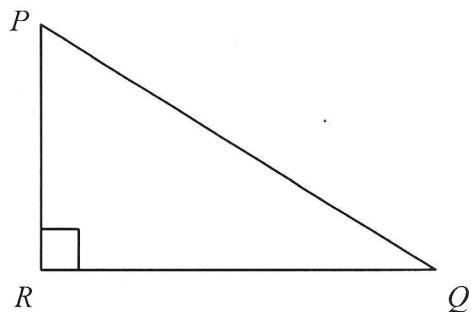
$$PQ^2 = 35^2 + 12^2 = 1369$$

$$PQ = \sqrt{1369} = 37 \text{ cm}$$



2. Complete the statement of Pythagoras Theorem for the triangle PQR .

$$\boxed{PR}^2 + \boxed{RQ}^2 = \boxed{PQ}^2$$

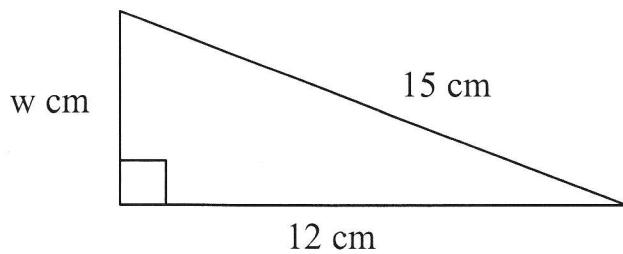


3. Find the value of w .

$$w^2 = 15^2 - 12^2 = 81$$

$$w = \sqrt{81}$$

$$= 9 \text{ cm}$$



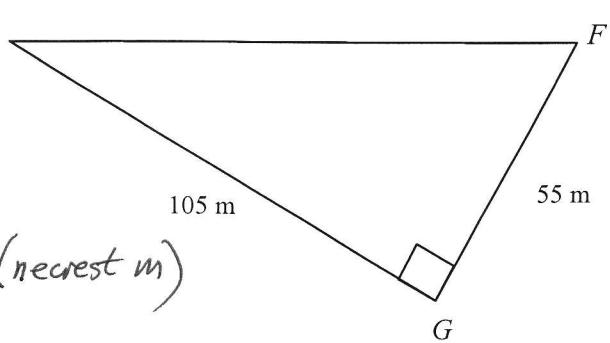
4. Find the distance EF to the nearest metre..

$$EF^2 = 105^2 + 55^2$$

$$= 14050$$

$$EF = \sqrt{14050}$$

$$= 118.53 = 119 \text{ m (nearest m)}$$



Pythagoras Test

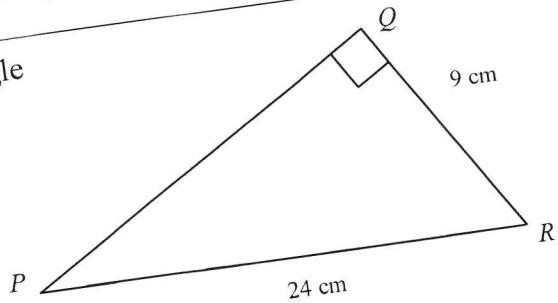
Find the length of the side PQ in the triangle PQR , correct to 2 decimal places.

$$PQ^2 = 24^2 - 9^2$$

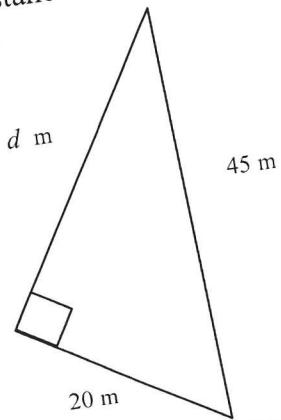
$$= 495$$

$$PQ = \sqrt{495}$$

$$= 22.25 \text{ (2 dp)}$$



6. Find the distance d , to the nearest centimetre.



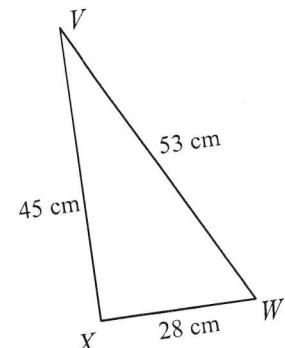
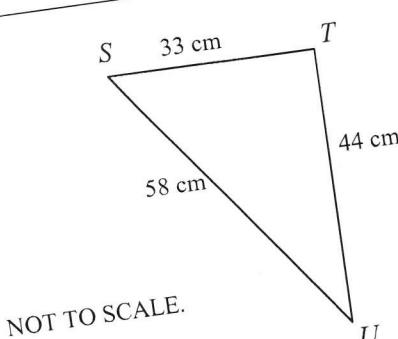
$$d^2 = 45^2 - 20^2$$

$$= 1625$$

$$d = \sqrt{1625}$$

$$= 40.31 \text{ m (nearest cm)}$$

7. Decide which triangle is right angled, giving reasons for your answer.



$$\Delta STU \quad 33^2 + 44^2 \neq 58^2$$

$$\Delta VWX \quad 45^2 + 28^2 = 53^2$$

Only ΔVWX is right angled.

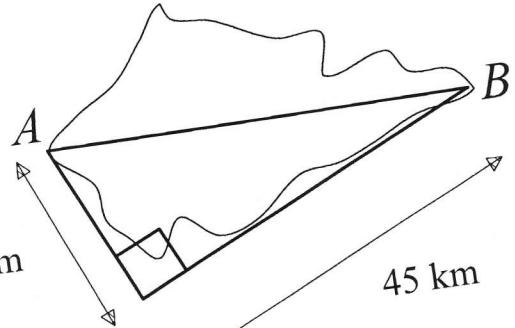
8. The measurements shown were taken to help calculate the width AB of the lake. Calculate the distance AB , correct to the nearest 100 m.

$$AB^2 = 23^2 + 45^2$$

$$= 2554$$

$$AB = \sqrt{2554}$$

$$= 50.5 \text{ km (nearest 100 m)}$$



Pythagoras Test

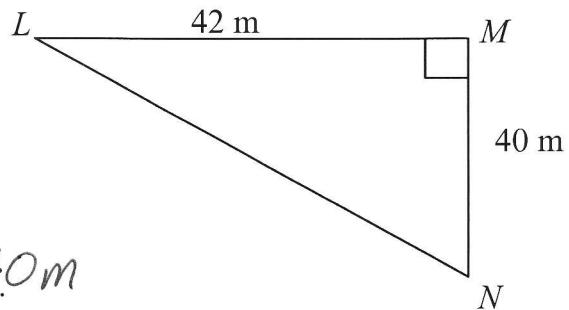
9. Calculate the perimeter of the triangle LMN .

$$LN^2 = 42^2 + 40^2$$

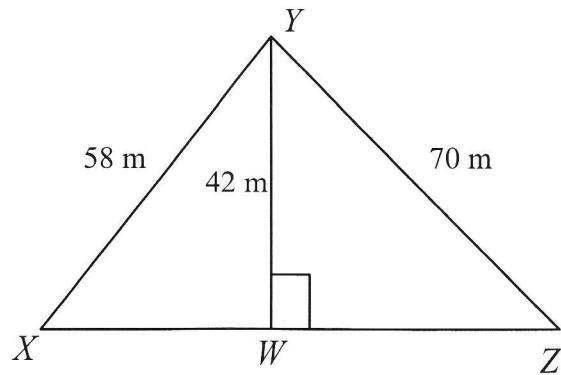
$$= 33.64$$

$$LN = 58$$

$$\text{Perimeter} = 42 + 40 + 58 = 140 \text{ m}$$



10. Find the area of the triangle XYZ



$$XW^2 = 58^2 - 42^2 \quad WZ^2 = 70^2 - 42^2 \quad XZ = 40 + 52$$

$$XW = 40 \text{ m} \quad = 52 \text{ m} \quad = 92 \text{ m}$$

$$\begin{aligned} \text{Area} &= \frac{1}{2} \times 92 \times 42 \\ &= 1932 \text{ m}^2 \end{aligned}$$

Pythagoras Test

Calculator

Year

9

Multiple Choice Section

Name : _____

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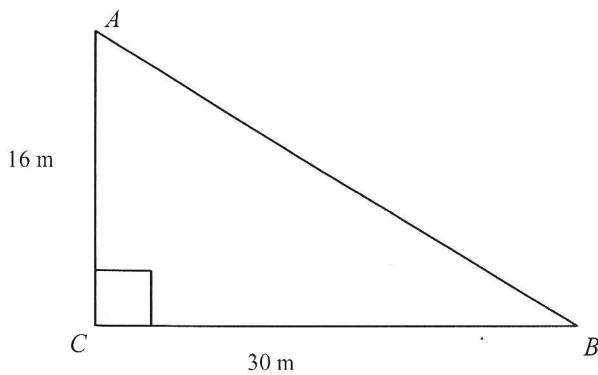
1. Find the length of AB in the triangle below.

A. 46 m

B. 25 m

C. 1156 m

D. 34 m



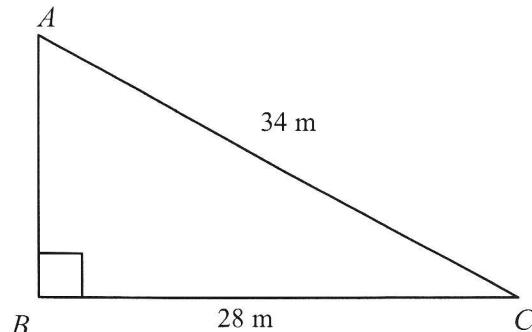
2. The length of AB in the triangle (to the nearest metre) is:

A. $AB = 6 \text{ m}$

B. $AB = 19 \text{ m}$

C. $AB = 25 \text{ m}$

D. $AB = 8 \text{ m}$



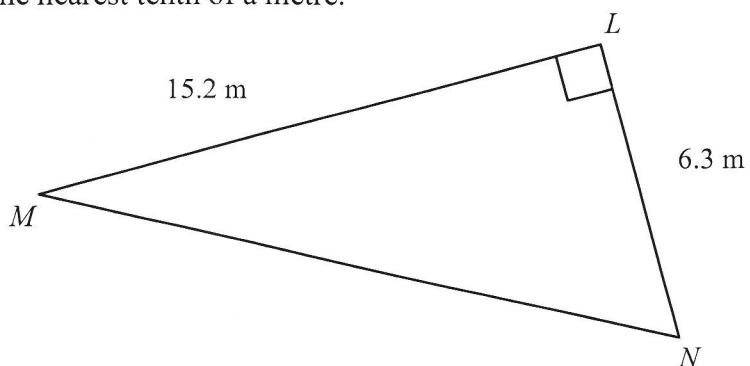
3. Find the length of MN , correct to the nearest tenth of a metre.

A. 4.6 m

B. 13.8 m

C. 16.5 m

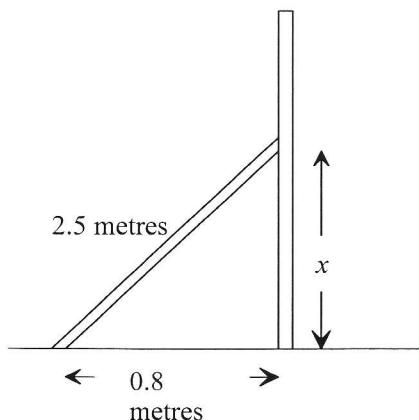
D. 21.5 m



Pythagoras Test

4. A piece of timber which is 2.5 metres long is attached as shown to support a vertical post. What is the distance marked x ?

- A. 1.7 metres
- B. 2.4 metres
- C. 2.6 metres
- D. 3.3 metres.

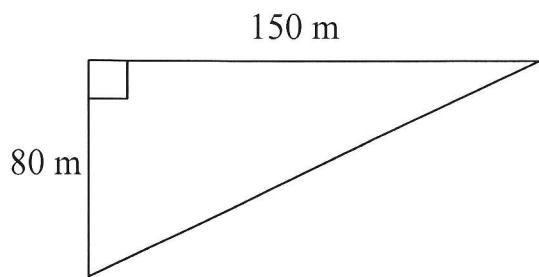


5. Owen has 5 pieces of timber from which he wants to choose 3 pieces to construct a right angled triangle to support a billboard. Which combination would allow him to make a right angled triangle without cutting the pieces of timber?

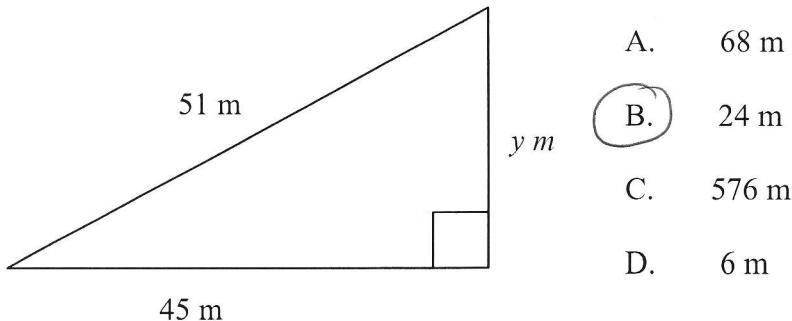
- A. 0.7 m, 1.0 m and 2.4 m
- B. 1.0 m, 2.4 m and 2.6 m
- C. 0.7 m, 0.8 m and 1.0 m
- D. 0.7 m, 2.4 m and 2.6 m

6. A triangular block of land has the dimensions shown. What is the perimeter of the block?

- A. 170 metres
- B. 230 metres
- C. 320 metres
- D. 400 metres.



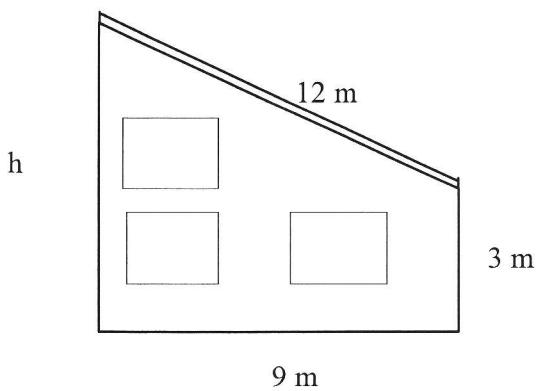
7. What is the value of y in the triangle shown?



Pythagoras Test

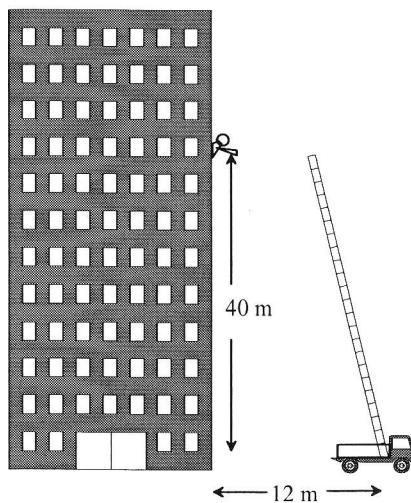
8. The sloping roof shown is 12 m long.
 The floor length is 9 m and one wall is 3 m high.
 What is the height (h) of the other wall?

- A. 10.9 m
 B. 6.0 m
 C. 15.0 m
 D. 12.4 m

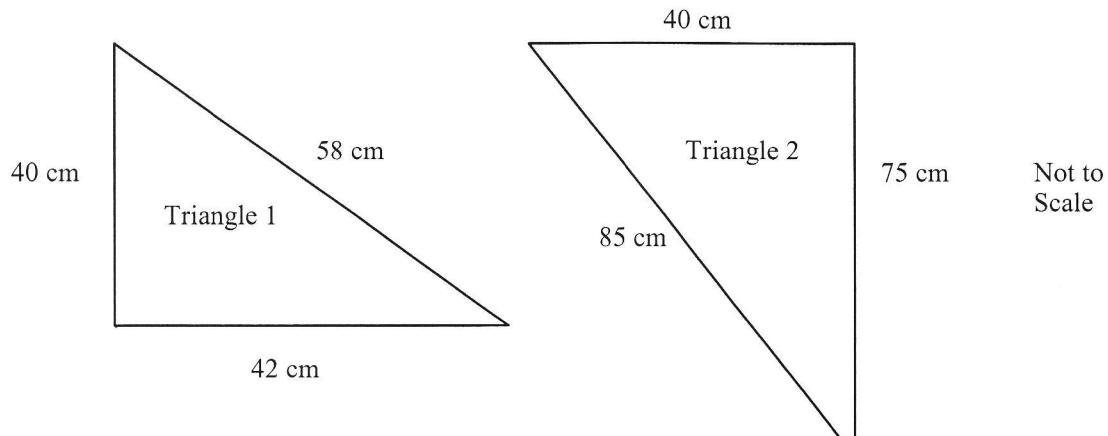


9. Firemen wish to rescue a person from an 8th floor window whose sill is 40 m above the base of the building. The base of the ladder must be at least 12 m from the base of the building. If the ladder is 41 m long, where will the ladder reach the building?

- A. 80 cm below the windowsill.
 B. 80 cm above the windowsill.
 C. 176 cm above the windowsill.
 D. 176 cm below the windowsill.



10. Shannon draws two triangles with the measurements shown below. Which of the triangles are right angled?



- A. Only triangle 1 is right angled. B. Only triangle 2 is right angled.
 C. Both triangles are right angled. D. Neither triangle is right angled.

Introductory Trigonometry Calculator
 Year Test
 10

Short Answer Section

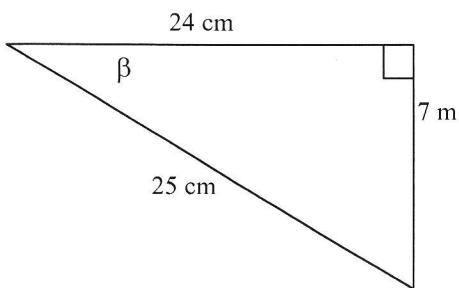
Name : _____

Write all working and answers in the spaces provided on this test paper.

1. In the diagram $\sin \beta = ?$

$$\sin \beta = \frac{7}{25}$$

$$= 0.28$$



2. Find the value of $\frac{15}{\sin 20^\circ}$ correct to 2 decimal places.

$$43.86$$

3. If $\tan A = 1.25$ find the value of A to the nearest degree.

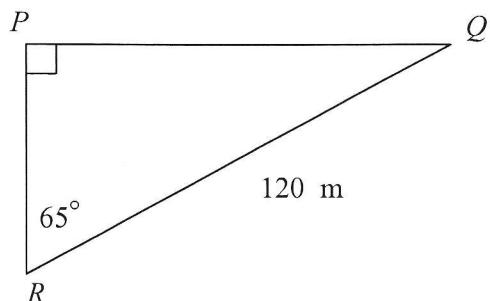
$$A = 51^\circ$$

4. Find the distance PQ correct to one decimal place.

$$\sin 65^\circ = \frac{PQ}{120}$$

$$PQ = 120 \sin 65^\circ$$

$$= 108.8 \text{ m}$$

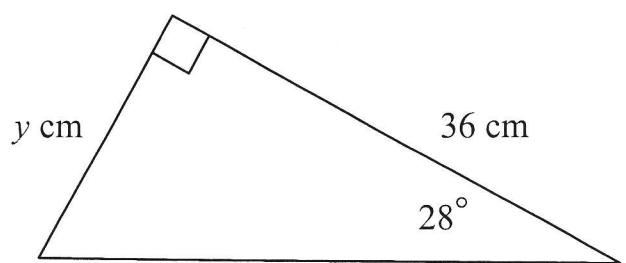


5. What is the value of y , correct to 2 significant figures?

$$\tan 28^\circ = \frac{y}{36}$$

$$y = 36 \tan 28^\circ$$

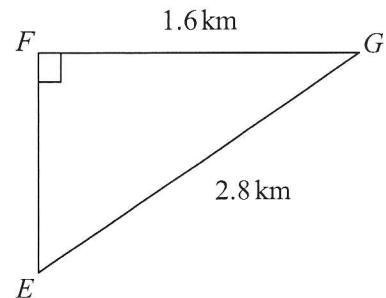
$$= 19 \text{ cm} \quad (2 \text{ s.f.})$$



6. Find the size of $\angle G$ correct to the nearest degree.

$$\cos G = \frac{1.6}{2.8}$$

$$G = 55^\circ \text{ (nearest deg)}$$

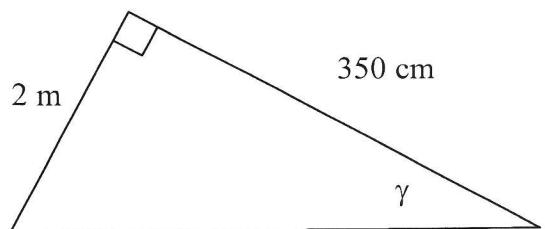


7. Find the value of γ correct to the nearest degree.

$$\tan \gamma = \frac{200}{350}$$

$$\gamma = 29.74$$

$$= 30^\circ \text{ (nearest deg)}$$

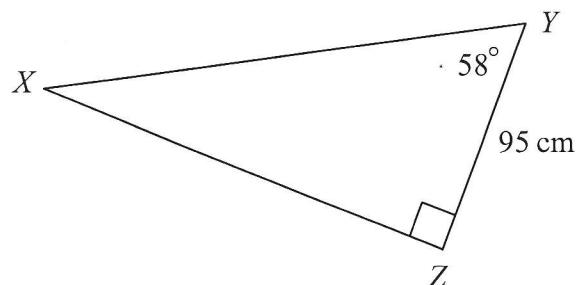


8. Calculate the distance XY .

$$\cos 58^\circ = \frac{95}{XY}$$

$$XY = \frac{95}{\cos 58^\circ}$$

$$= 179.3 \text{ (1.d.p.)}$$



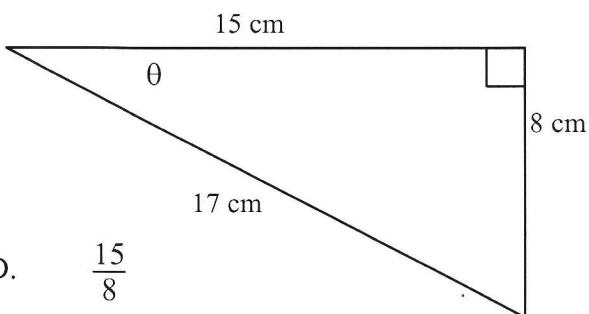
**Introductory
Trigonometry Test** **Calculator**
Year 10
Multiple Choice Section

Name : _____

Mark all your answers on the accompanying multiple choice answer sheet, not on this test paper. You may do any working out on this test paper. Calculators are allowed for this section.

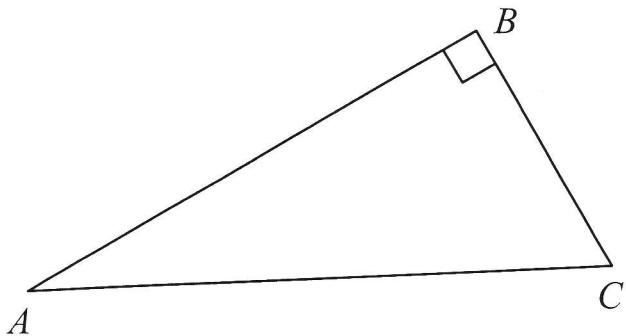
1. In the diagram $\sin \theta = ?$

- A. $\frac{8}{15}$ B. $\frac{8}{17}$ C. $\frac{15}{17}$ D. $\frac{15}{8}$



2. What is the value of $\tan A = ?$

- A. $\frac{BC}{AB}$
 B. $\frac{AB}{BC}$
 C. $\frac{BC}{AC}$
 D. $\frac{AB}{AC}$



3. Evaluate $\cos 45^\circ$ correct to 2 decimal places.

- A. 0.70 B. 0.76 C. 0.05 D. 0.71

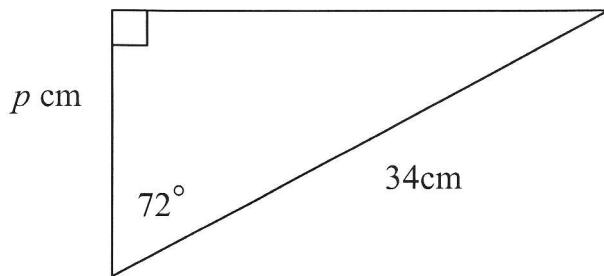
4. If $\sin X = \frac{9}{41}$ calculate the size of angle X to the nearest degree

- A. 13° B. 4° C. 77° D. 12°

Introductory Trigonometry Test

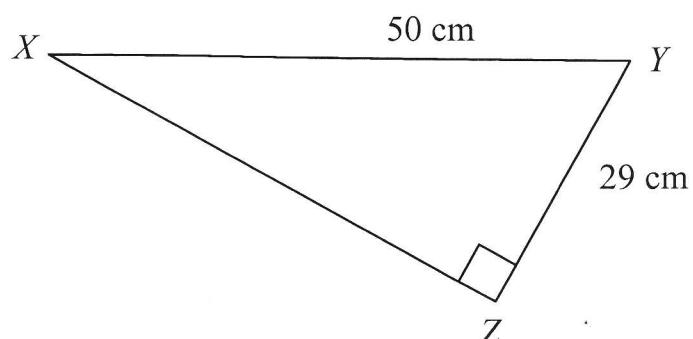
5. Find the value of p correct to one decimal place.

- A. 10.5 cm
 B. 59.7 cm
 C. 32.3 cm
 D. 110.0 cm



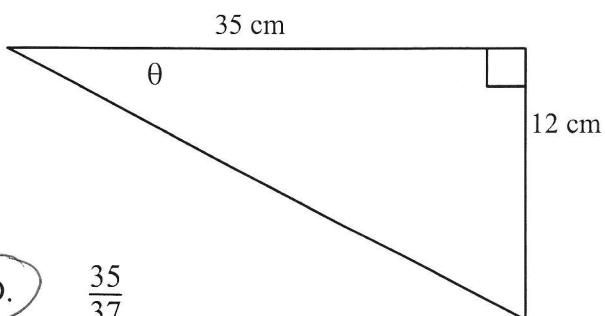
6. Find the size of angle X , correct to the nearest degree.

- A. 55°
 B. 35°
 C. 30°
 D. 60°



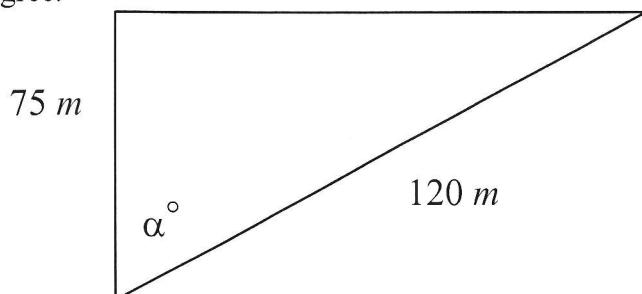
7. What is the value of $\cos \theta$?

- A. $\frac{35}{12}$ B. $\frac{12}{35}$ C. $\frac{12}{37}$ D. $\frac{35}{37}$



8. Find the value of α correct to the nearest degree.

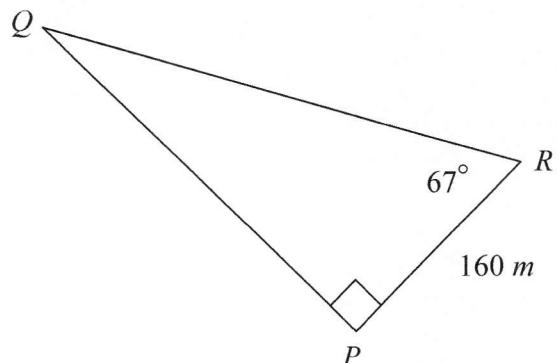
- A. 39°
 B. 51°
 C. 32°
 D. 58°



Introductory Trigonometry Test

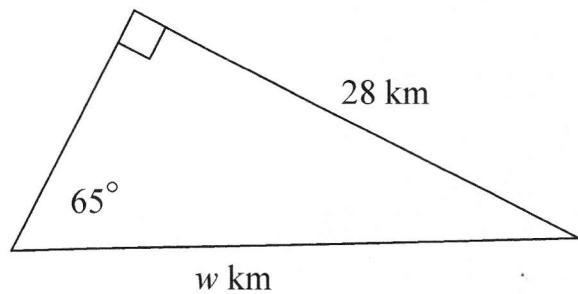
9. Find the distance PQ , correct to the nearest metre.

- A. 68 m
- B. 63 m
- C. 377 m
- D. 147 m



10. Find the value of w correct to one decimal place.

- A. 25 km
- B. 31 km
- C. 12 km
- D. 66 km



Basic Measurement Test Non Calculator

Year

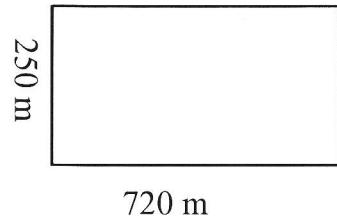
9

Short Answer Section

Name : _____

Write all working and answers in the spaces provided on this test paper.

1. A rectangular field measures 720 metres by 250 metres.
What is the perimeter of the field?

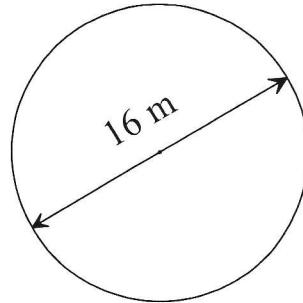


$$P = 2x(250 + 720)$$

$$= 1940 \text{ m}$$

2. What is the circumference of the circle shown?

$$C = \pi d = \pi \times 16 \\ = 50.3 \text{ m}$$



3. The capacity of the plastic drinking cups at a picnic is 250 mL. The water cooler holds 16 litres. How many cups could be filled from the water cooler?

$$4 \text{ cups per litre.} \quad \text{No cups} = 16 \times 4 \\ = 64 \text{ cups.}$$

4. A car travels at an average speed of 90 km/h. How long would it take to travel 315 km?

$$s = \frac{d}{t} \quad t = \frac{315}{90} \\ 90 = \frac{315}{t} \quad = 3\frac{1}{2} \text{ hours.}$$

5. Angela watches a DVD on a rainy Saturday. She starts watching at a quarter past eleven in the morning. If the DVD lasts for 110 minutes, what time would it finish?

$$110 \text{ min.} = 1 \text{ hr} = 50 \text{ min.} \quad 11:15 + 1:50 \\ = 13:05$$

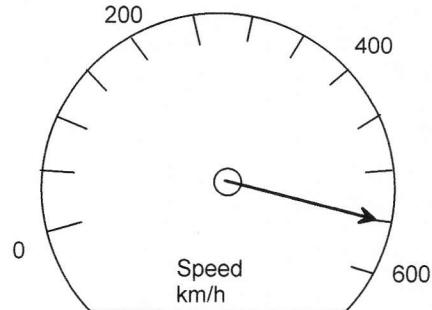
OR $1:05 \text{ pm}$

Basic Measurement Test

6. The speedometer shows the airspeed of an aircraft. What speed does it currently show?

Each division = 50

Speed = 550 km/h

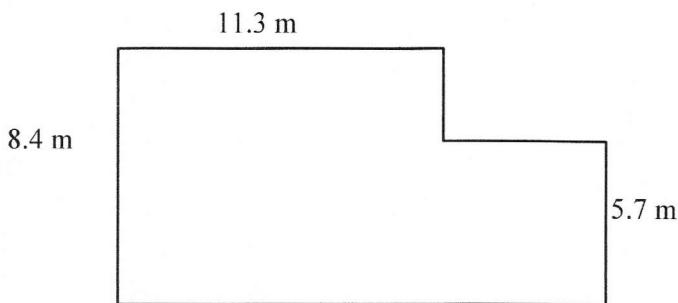


7. A train leaves Lithgow at 7:39 a.m. and arrives at Sydney at 10:09 a.m. If the distance by rail is 140 km, what was the train's average speed?

7:39 to 10:09 = 2 1/2 hrs

Speed = $140 \div 2\frac{1}{2} = 56 \text{ km/h}$

8. Find the cost of fencing the field shown below at a rate of \$12.50 per metre.



Perimeter = $(13.5 + 8.4) \times 2 = 43.8 \text{ m}$

Cost = $43.8 \times 12.5 = \$547.50$

9. Bricks weigh 2.4 kg each. A wooden pallet for stacking the bricks weighs 19.2 kg. A forklift is used to lift the pallet stacked with bricks. The forklift has a maximum lifting capacity of 1.2 tonnes. How many bricks could be stacked on a pallet to be lifted by the forklift?

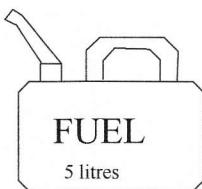
Mass bricks = $1200 \text{ kg} - 19.2 = 1180.8 \text{ kg}$

No bricks = $1180.8 \div 2.4 = 492 \text{ bricks}$

10. A petrol container holds 5 litres of fuel. The engine for a remote control car has a petrol tank that holds 200 millilitres of fuel. How many times could the tank be filled from the container?

No refills = $5000 \text{ ml} \div 200 \text{ ml}$

= 25 times



Basic Measurement Test
Calculator

Year

9 Multiple Choice Section

Name : _____

Mark all your answers on the accompanying multiple choice answer sheet, not on this test paper. You may do any working out on this test paper. Calculators are allowed for this section.

1. Which of the following distances is twice 700 metres?

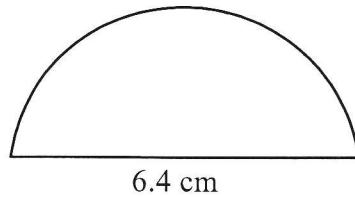
A. 14 000 cm B. 14 km C. 1.4 km D. 14 000 000 mm

2. Jack checks the cinema guide and sees that a movie starts at 18:55. If he finishes work at 4:30 pm, how long does he have before the movie starts?

A. 2 hours and 25 minutes B. 1 hour and 25 minutes
C. 2 hours and 35 minutes D. 14 hours and 25 minutes

3. What is the perimeter of the semicircle shown?

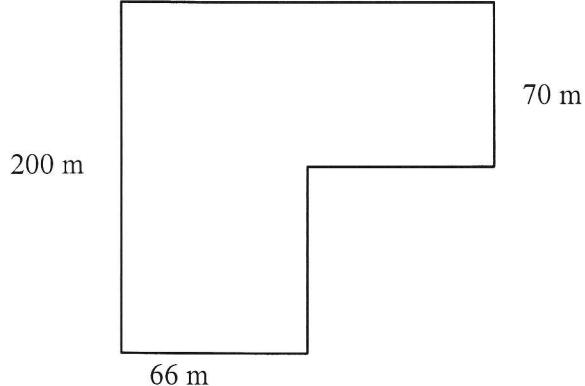
- A. 20.1 cm
B. 16.5 cm
C. 10.1 cm
D. 24.5 cm



4. What is the perimeter of the shape shown?

125 m

- A. 325 m
B. 391 m
C. 461 m
D. 650 m



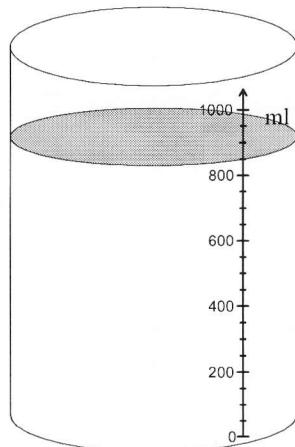
5. Rachel wants to see a movie that starts at 7:05 pm. She leaves home and takes a 25 minute ferry ride to get to her friend's house where she stays for an hour and a half, before they take a bus which takes three quarters of an hour to get to the movies. What time did she leave home, if they arrive 10 minutes before the movie starts?

- A. 3:55 pm B. 4:15 pm C. 4:25 pm D. 5:05 pm

Basic Measurement Test

6. What is the amount of liquid in the measuring cylinder?

- A. 8.5 litres.
- B. 8.2 litres.
- C. 0.85 litres.
- D. 0.82 litres.



7. A dam on a farm holds 4 500 kilolitres of water. How many litres is this?

- A. 4.5 litres
- B. 4 500 000 litres
- C. 0.45 litres
- D. 4 500 000 000 litres

8. The area of Kings Park is 15 hectares.

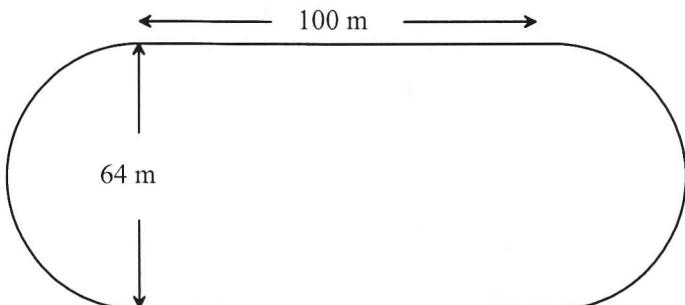
The area of Central Park is $3\ 000\ m^2$.

Which is the correct comparison of the sizes of the parks?

- A. Central Park is 20 times larger than Kings park.
- B. Central Park is 200 times larger than Kings park.
- C. Kings Park is 5 times larger than Central park.
- D. Kings Park is 50 times larger than Central park.

9. A running track has two straights which each measure 100 m long and two semicircular sections with a diameter of 64 m. What is the length of the track?

- A. 401 m
- B. 301 m
- C. 328 m
- D. 358 m



10. Sandra measures the mass of her new puppies.

The Dashund weighs 4.9 kg and the Cavoodle weighs 5 200 g. What is the total mass of the two puppies?



- A. 5.42 kg
- B. 9.11 kg
- C. 10.1 kg
- D. 56.9 kg

Year
9

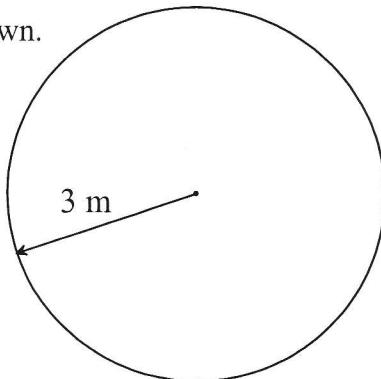
Area of Plane Shapes Test Calculator

Short Answer Section

Name : _____

Write all working and answers in the spaces provided on this test paper.

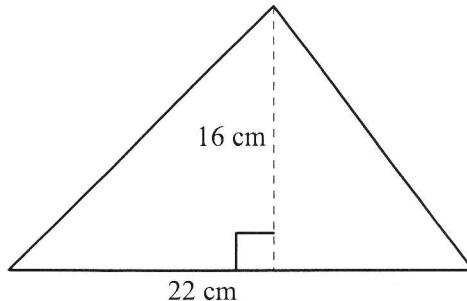
1. Using $\pi = 3.14$ find the area of the circle shown.



$$A = \pi \times 3^2$$

$$= 28.26 \text{ m}^2$$

2. Calculate the area of the triangle shown?



$$A = \frac{1}{2} \times 22 \times 16$$

$$= 176 \text{ cm}^2$$

3. A sketch of an irregular block of land is shown. Find the area of the block.

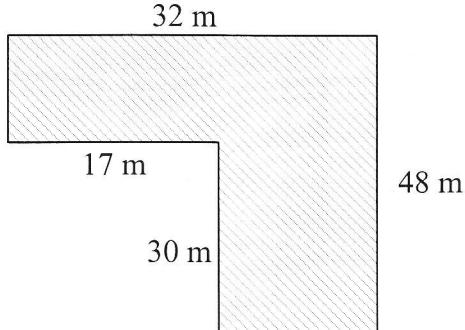


Diagram not to scale.

$$A = 32 \times 18 + 30 \times 15$$

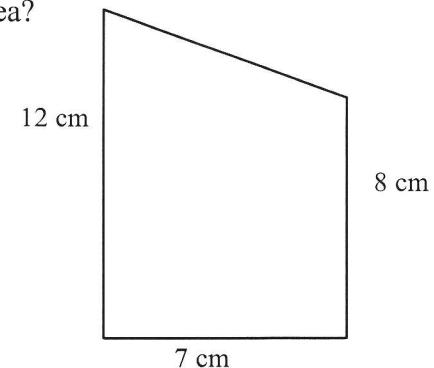
$$= 576 + 450 = 1026 \text{ m}^2$$

Area of Plane Shapes Test

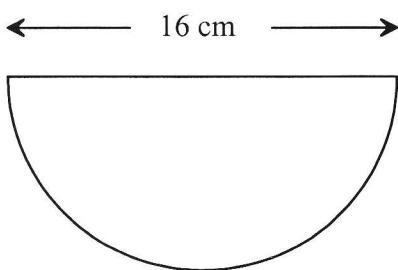
4. A trapezium has the dimensions shown below. What is its area?

$$A = \frac{1}{2}(12+8)$$

$$= 70 \text{ cm}^2$$



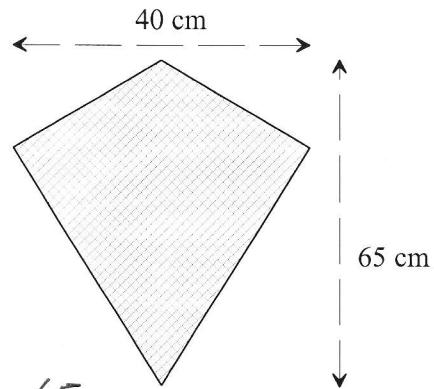
5. Find the area of the semicircle shown below.



$$A = \frac{1}{2} \times \pi \times 8^2$$

$$= 100.5 \text{ cm}^2$$

6. Harriet makes a kite using a piece of fabric with the dimensions shown. What is the area of fabric used in the kite?



$$A = \frac{1}{2} \times b \times h = \frac{1}{2} \times 40 \times 65$$

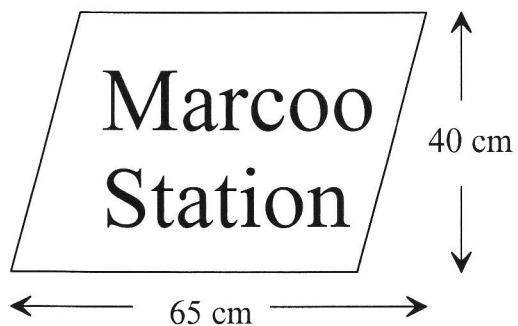
$$= 1300 \text{ cm}^2$$

7. A station sign is to be made from metal plate in the shape of a parallelogram. What area of metal plate is needed for the sign shown?

$$A = b \times h$$

$$= 65 \times 40$$

$$= 2600 \text{ cm}^2$$



Area of Plane Shapes Test

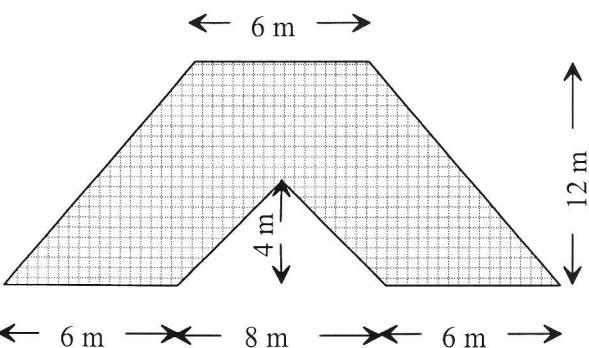
8. A paved courtyard in a garden is in the shape of a trapezium with a triangular section cut out as shown. What area of paving would be needed for the courtyard?

$$\text{Trapezium} = \frac{12}{2}(6+20) = 156 \text{ m}^2$$

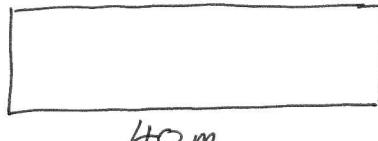
$$\text{Triangle} = \frac{1}{2} \times 4 \times 8 = 16 \text{ m}^2$$

$$\text{Shaded area} = 156 - 16$$

$$= 140 \text{ m}^2$$



9. A roll of kitchen paper is 40 centimetres wide and 40 metres long. How many square metres of paper are on the roll?



$$40 \text{ cm} = 0.4 \text{ m}$$

$$\text{Area} = 0.4 \times 40$$

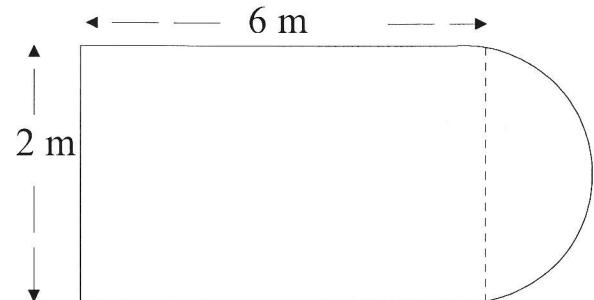
$$= 16 \text{ m}^2$$

10. A deck is to be made in the shape shown below. Find the area of the deck.

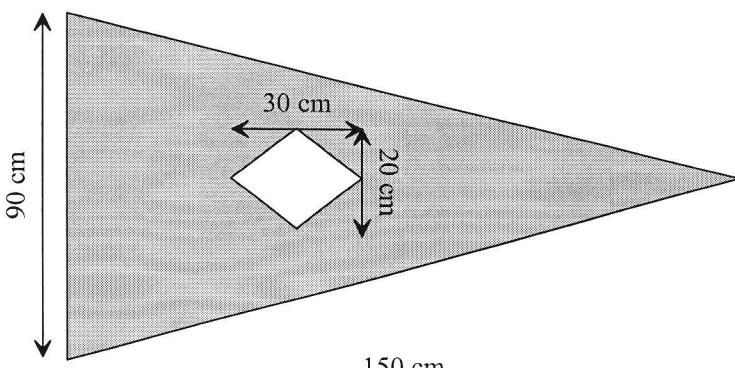
$$\text{Rectangle} = 6 \times 2 = 12 \text{ m}^2$$

$$\text{Semicircle} = \frac{1}{2} \times \pi \times 1^2 = 1.57$$

$$\begin{aligned} \text{Total Area} &= 12 + 1.57 \\ &= 13.57 \text{ m}^2 \end{aligned}$$



11. Kayleigh designs a shape for part of a sculpture. The shape is a triangle with a rhombus cut out of it and is made from plywood. She wants to paint the piece using tubes of paint that cover 1000 cm² per tube? How many tubes will she need to paint the piece of plywood on both sides?



$$\begin{aligned} \text{Area} A &= \frac{1}{2} \times 90 \times 150 \\ &= 6750 \text{ cm}^2 \end{aligned}$$

$$\text{Area Rhombus} = \frac{1}{2} \times 30 \times 20 = 300 \text{ cm}^2$$

$$\text{Area to paint} = 2 \times (6750 - 300) = 12900$$

$$\text{Number tubes} = 12900 \div 1000 = 12.9$$

13 tubes needed.

Area of Plane Shapes
Test

Calculator

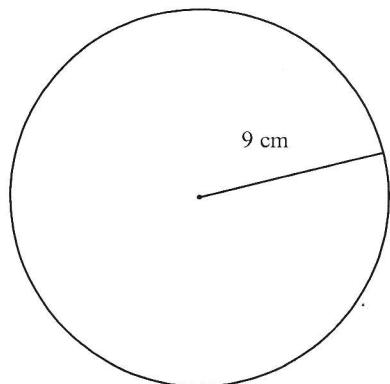
Year
9Multiple Choice
Section

Name : _____

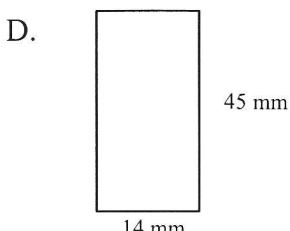
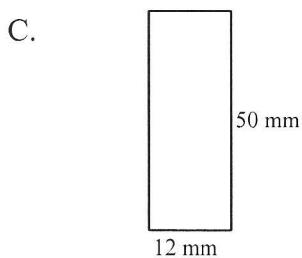
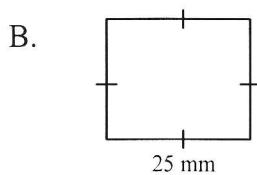
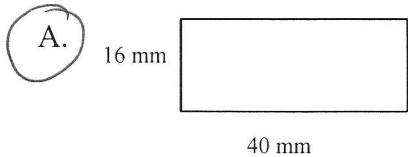
Mark all your answers on the accompanying multiple choice answer sheet, not on this test paper. You may do any working out on this test paper. Calculators are allowed for this section.

1. What is the area of the circle shown?

- A. 81 cm^2
- B. 28.3 cm^2
- C. 254.5 cm^2
- D. 56.5 cm^2

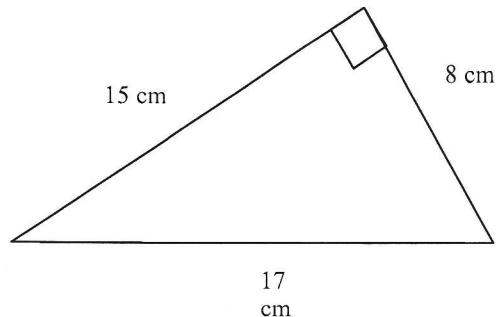


2. Which shape below has the greatest area?

Drawings not to scale.

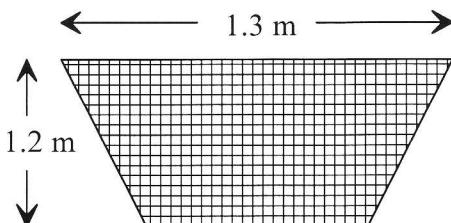
3. What is the area of the triangle shown?

- A. 60 cm^2
- B. 68 cm^2
- C. 120 cm^2
- D. 127.5 cm^2



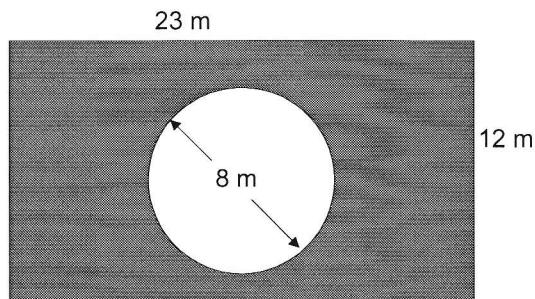
Area of Plane Shapes Test

4. An opening to a vent has the shape shown below. What is the area of mesh that covers the vent?



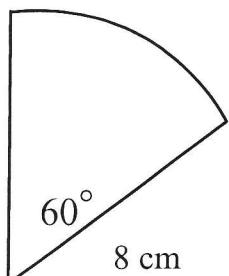
- A. 0.84 m^2 B. 1.20 m^2 C. 1.56 m^2 D. 2.40 m^2

5. The shaded area shown below is :



- A. 276 m^2 B. 201 m^2 C. 75 m^2 D. 226 m^2

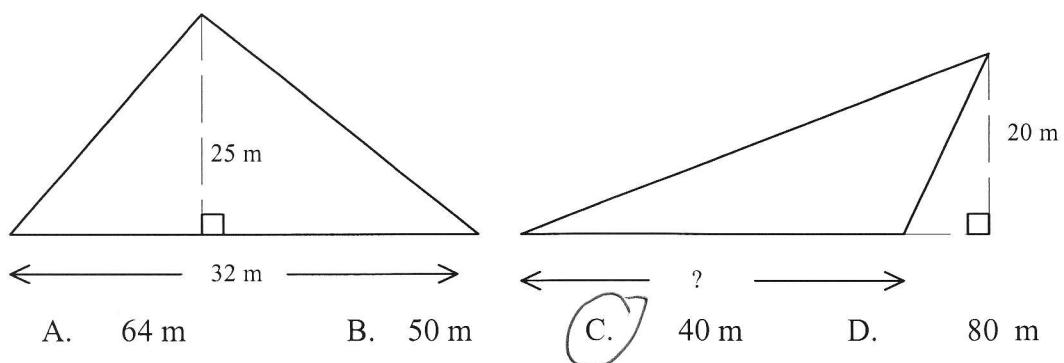
6. The area of the sector of a circle shown below is:



- A. 201 cm^2
 B. 34 cm^2
 C. 67 cm^2
 D. 134 cm^2

7. What is the length of the base of the second triangle, if the two triangles have the same area?

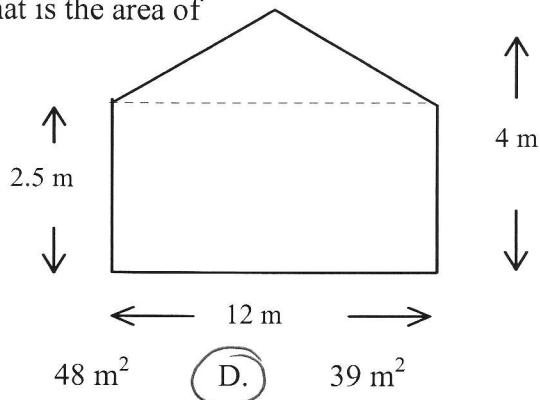
Drawings not to scale.



- A. 64 m B. 50 m C. 40 m D. 80 m

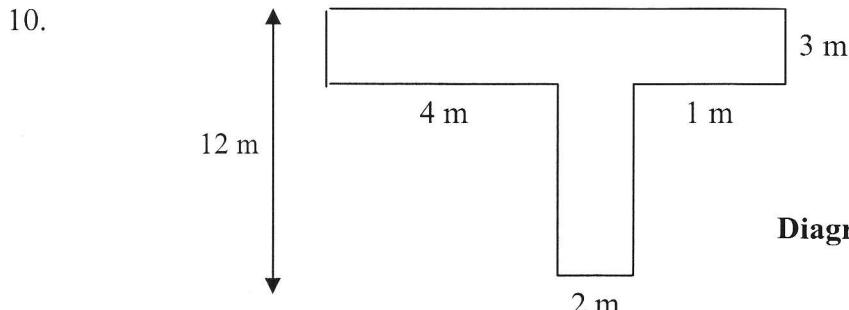
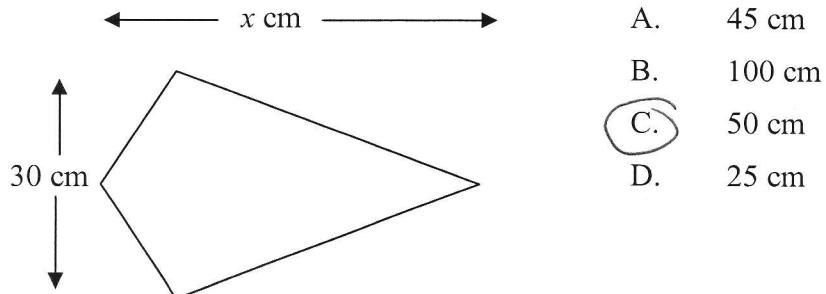
Area of Plane Shapes Test

8. The end of a building is in the shape shown. What is the area of the end of the building?



- A. 54 m^2 B. 66 m^2 C. 48 m^2 D. 39 m^2

9. The area of the kite shown is 750 cm^2 . The value of x is :



The area of the shape shown above is

- A. 31 m^2 B. 39 m^2 C. 36 m^2 D. 33 m^2