MATHEMATICS QUESTIONS BY TOPICS

Kilbaha Education
Quality educational content

MEASUREMENT

50 Multiple Choice Questions with curriculum references and detailed answers

SAMPLE

- Click here for the question index

- Click here for the answer index

- Scan or click the QR codes for more information

Mathematics Questions by Topics
Measurement – Multiple Choice

Index – Click on the question. ACR = Australian Curriculum Reference

About the Authors: William Paul Healy BSc BA Dip Ed and Barbara Clarice Healy BSc BEd are experienced mathematics and science teachers each with more than 30 years classroom experience. As principal writers for Kilbaha Education they bring a wealth of pedagogical knowledge and expertise to their many publications. The quality of their work has been demonstrated over the years with content written for the VCE examinations in Victoria Australia.

Mathematics Questions by Topics
Measurement   Question 1   Source: K21FM1Q1

The direct distance between a yacht at point Y and the top of a lighthouse at point L
is 193 metres.

The base of the vertical cliff on which the lighthouse stands is at point B. The vertical
distance from the base of the cliff to the top of the lighthouse at point L is 95 metres.

The distance, in metres, from Y to B is

A.   98
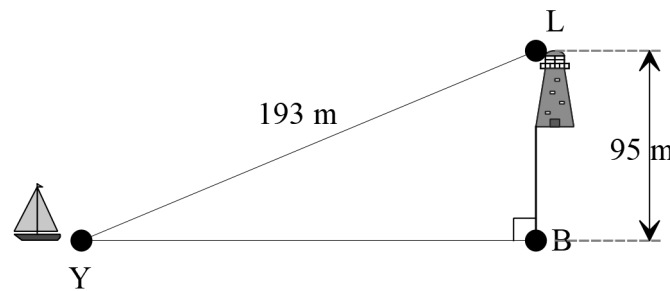
B.   168

C.   192

D.   215

E.   288

Curriculum	Subject	Topic	Description
Australia	General Mathematics Unit 3	Right angled triangles	Apply Pythagoras' theorem to solve problems (ACMEM116)
Victoria	General Mathematics Unit 1	Measurement	Solve practical problems involving the use of Pythagoras' theorem in two and three dimensions
New South Wales	Mathematics Standard Stage 6	Perimeter, Area, volume	Review the use of Pythagoras' theorem to solve problems involving right-angled triangles

Mathematics Questions by Topics

Measurement   Question 50   Source: K15FM1Q8

A cuboid box of length 24 cm and width 40 cm has an open lid. The lid makes an angle of 18^0 with the horizontal. The angle that the diagonal PQ makes with the horizontal is closest to

A. 2^0

B. 4^0

C. 5^0

D. 9^0

E. 11^0

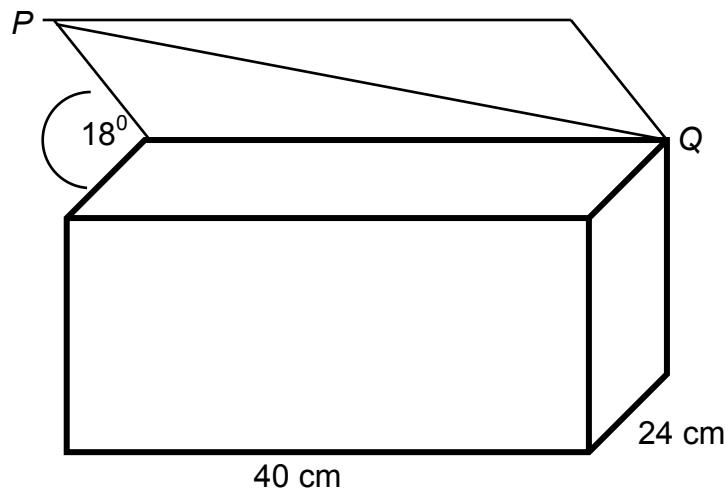| Curriculum	Subject	Topic	Description
Australia	General Mathematics Unit 3	Right angled triangles	Apply Pythagoras' theorem to solve problems (ACMEM116)
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End of
MATHEMATICS QUESTIONS BY TOPICS
MEASUREMENT
50 Multiple Choice Questions

MATHEMATICS QUESTIONS BY TOPICS

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Answers to 50 Multiple Choice Questions

- Click here for the answer index

- Check your answer

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Mathematics Questions by Topics
Measurement – Multiple Choice

Index – Click on the answer. ACR = Australian Curriculum Reference.

Q	Topic	ACR	Q	Topic	ACR
1	Pythagoras' theorem	ACMEM116	26	Trigonometric ratios	ACMGM034
2	Location	ACMEM159	27	Similar figures	ACMGM022
3	Applications of trigonometry	ACMGM036	28	Lengths of arcs in circles	ACMMM033
4	Location	ACMEM159	29	Surface area of solids	ACMGM020
5	Shape and measurement	ACMGM018	30	Applications of trigonometry	ACMGM037
6	Shape and measurement	ACMGM019	31	Sine and cosine rules	ACMGM036
7	Scale and similarity	ACMGM025	32	Pythagoras' theorem	ACMGM017
8	Right angled triangles	ACMEM120	33	Time zones	ACMEM165
9	Pythagoras' theorem	ACMEM116	34	Areas of composite shapes	ACMGM018
10	Bearings	ACMEM120	35	Applications of trigonometry	ACMGM034
11	Find an unknown angle	ACMSM038	36	Perimeters and areas	ACMGM018
12	Sine and cosine rules	ACMGM036	37	Similar figures	ACMGM021
13	Volumes of solids	ACMGM019	38	Applications of trigonometry	ACMGM037
14	Time zones and travel	ACMEM166	39	Sine and cosine rules	ACMGM036
15	Volumes of solids	ACMGM019	40	Area of a parallelogram	ACMGM034
16	Scale and similarity	ACMGM025	41	Circles and cones	ACMGM018
17	Pythagoras' theorem	ACMEM116	42	Applications of trigonometry	ACMGM037
18	Similar figures	ACMGM024	43	Similar figures	ACMGM024
19	Applications of trigonometry	ACMGM037	44	Sine and cosine rules	ACMGM036
20	Applications of trigonometry	ACMGM037	45	Applications of trigonometry	ACMGM036
21	Latitude and longitude	ACMEM160	46	Angles of elevation	ACMGM037
22	Latitude and longitude	ACMEM160	47	Sine and cosine rules	ACMGM036
23	Areas of composite shapes	ACMEM094	48	Volumes of solids	ACMGM019
24	Volumes of solids	ACMGM019	49	Sine and cosine rules	ACMGM036
25	Sector of a circle	ACMGM018	50	Pythagoras' theorem	ACMEM116

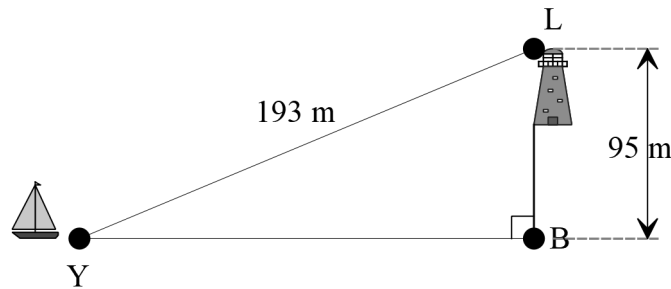**Mathematics Questions Topics**

Measurement   Answer 1   Source: K21FM1S1

The direct distance between a yacht at point Y and the top of a lighthouse at point L is 193 metres. The base of the vertical cliff on which the lighthouse stands is at point B. The vertical distance from the base of the cliff to the top of the lighthouse at point L is 95 metres.

The distance, in metres, from Y to B is

A.   98

B.   168

C.   192

D.   215

E.   288

Answer B

By Pythagoras,

$$YB = \sqrt{193^2 - 95^2} = 168$$

Mathematics Questions by Topics

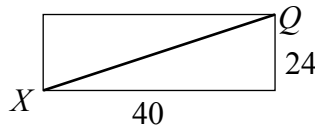Measurement   Answer 50   Source: K15FM1S8
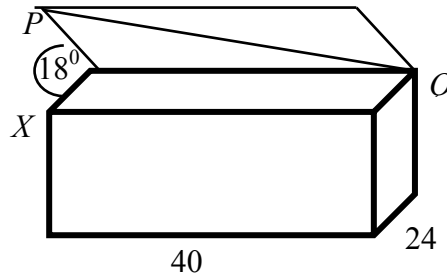
A cuboid box of length 24 cm and width 40 cm has an open lid. The lid makes an angle of 18^0 with the horizontal. The angle that the diagonal PQ makes with the horizontal is closest to

A. 2^0
B. 4^0
C. 5^0
D. 9^0
E. 11^0

Answer D

$$QX = \sqrt{40^2 + 24^2} = 46.65$$

$$\tan 18^0 = \frac{PX}{24}$$

$$PX = 7.8$$
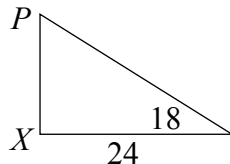
$$\tan \angle PQX = \frac{7.8}{46.65}$$

$$\angle PQX = 9.49^0$$
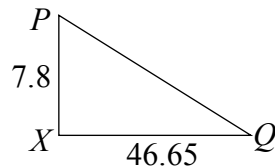
This is closest to 9^0

End of
MATHEMATICS QUESTIONS BY TOPICS
MEASUREMENT
Answers to 50 Multiple Choice Questions

Mathematics Questions by Topics

Measurement – Multiple Choice   Summary of Answers

Q	Answer	Q	Answer
1	B	26	B
2	C	27	D
3	D	28	C
4	E	29	A
5	D	30	C
6	A	31	C
7	C	32	B
8	B	33	E
9	E	34	E
10	A	35	D
11	C	36	A
12	E	37	E
13	E	38	A
14	B	39	E
15	A	40	A
16	D	41	C
17	C	42	D
18	E	43	E
19	E	44	B
20	A	45	B
21	B	46	B
22	D	47	A
23	C	48	E
24	A	49	D
25	A	50	D

Distribution: A 11   B 9   C 9   D 9   E 12

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50 Multiple Choice Questions

STUDENT BOOK

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Mathematics Questions by Topics

Measurement   Question 2   Source: K21FM1Q2

Which one of the following locations is closest to the South Pole?

A.   12°S 72°W

B.   72°N 05°E

C.   42°S 125°E

D.   15°S 42°W

E.   36°S 05°W

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Mathematics Questions by Topics

Measurement   Question 49   Source: K15FM1Q7
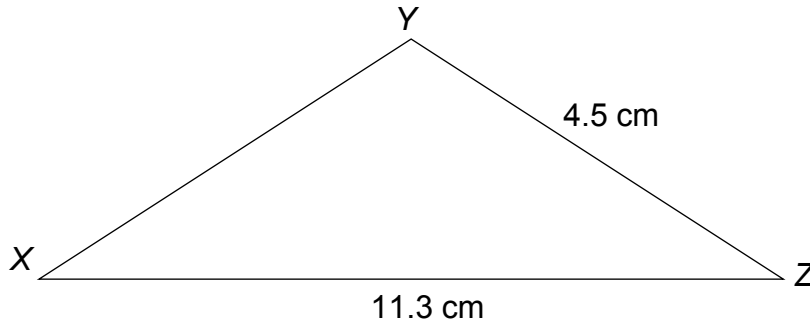
The area of triangle *XYZ* is 20 cm^2. If *XZ* = 11.3 cm and *YZ* = 4.5 cm, then the perimeter of triangle *XYZ* is closest to

A.   20 cm.

B.   21 cm.

C.   23 cm.

D.   25 cm.

E.   31 cm.

Mathematics Questions by Topics

Measurement   Question 50   Source: K15FM1Q8

A cuboid box of length 24 cm and width 40 cm has an open lid. The lid makes an angle of 18^0 with the horizontal. The angle that the diagonal PQ makes with the horizontal is closest to

A. 2^0

B. 4^0

C. 5^0

D. 9^0

E. 11^0

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