

MATHEMATICS QUESTIONS BY TOPICS



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MEASUREMENT

50 Multiple Choice Questions with curriculum references and detailed answers

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- Click here for the answer index
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Mathematics Questions by Topics

Measurement – Multiple Choice

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

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1	Pythagoras' theorem	ACMEM116	26	Trigonometric ratios	ACMGM034
2	Location	ACMEM159	27	Similar figures	ACMGM022
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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
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11	Find an unknown angle	ACMSM038	36	Perimeters and areas	ACMGM018
12	Sine and cosine rules	ACMGM036	37	Similar figures	ACMGM021
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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

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 Subjects: Mathematics
 Other Creators: Barbara Clarice Healy, Vivienne Bond

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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.

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Mathematics Questions by Topics

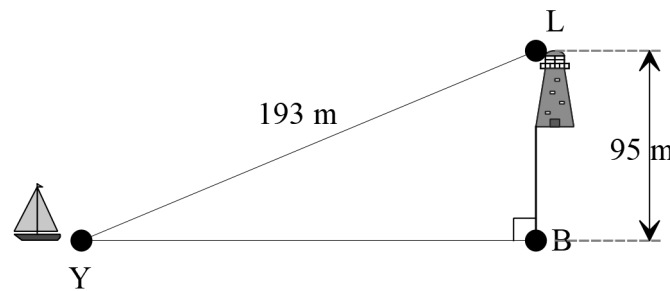
Measurement

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

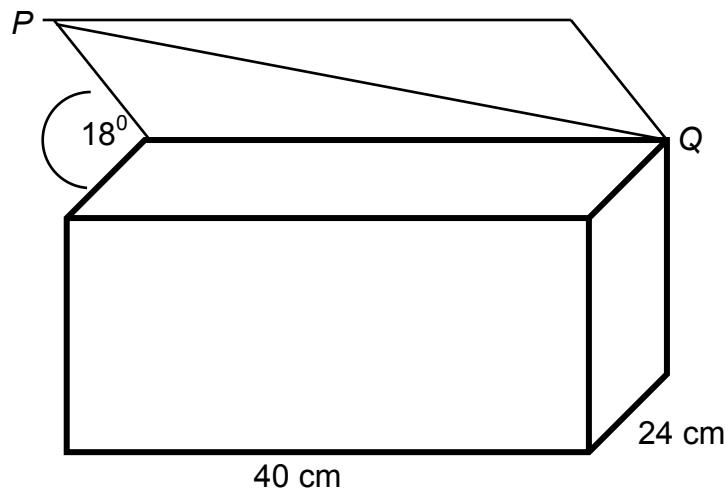
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Mathematics Questions by Topics

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° with the horizontal. The angle that the diagonal PQ makes with the horizontal is closest to

- A. 2°
- B. 4°
- C. 5°
- D. 9°
- E. 11°

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**End of
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MATHEMATICS QUESTIONS BY TOPICS



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Answers to 50 Multiple Choice Questions

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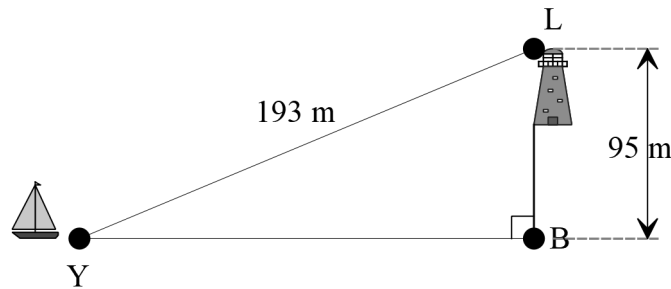
Mathematics Questions Topics

Measurement

Answer 1

Source: K21FM1S1

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The distance, in metres, from Y to B is

- A. 98
- B. 168
- C. 192
- D. 215
- E. 288

Answer B

By Pythagoras,

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

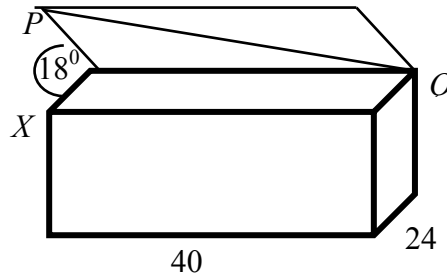
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Mathematics Questions by Topics

Measurement

Answer 50

Source: K15FM1S8

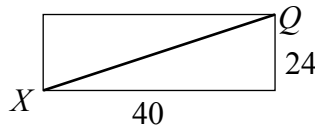


A cuboid box of length 24 cm and width 40 cm has an open lid. The lid makes an angle of 18° with the horizontal. The angle that the diagonal PQ makes with the horizontal is closest to

- A. 2°
- B. 4°
- C. 5°
- D. 9°
- E. 11°

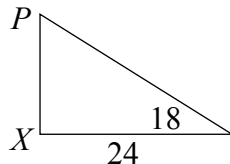
Answer D

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



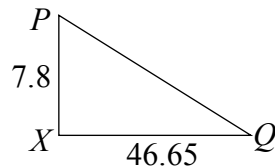
$$\tan 18^\circ = \frac{PX}{24}$$

$$PX = 7.8$$



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

$$\angle PQX = 9.49^\circ$$



This is closest to 9°

**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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Measurement – Multiple Choice

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Creator: William Paul Healy

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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.

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Measurement

Question 2

Source: K21FM1Q2

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

- A. $12^{\circ}\text{S } 72^{\circ}\text{W}$
- B. $72^{\circ}\text{N } 05^{\circ}\text{E}$
- C. $42^{\circ}\text{S } 125^{\circ}\text{E}$
- D. $15^{\circ}\text{S } 42^{\circ}\text{W}$
- E. $36^{\circ}\text{S } 05^{\circ}\text{W}$

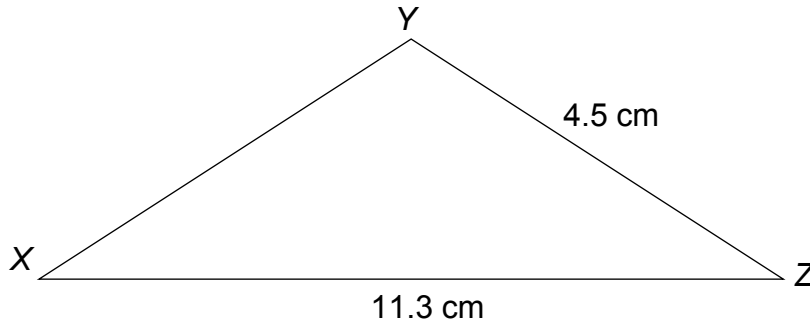
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Mathematics Questions by Topics

Measurement

Question 49

Source: K15FM1Q7



The area of triangle XYZ is 20 cm^2 . If $XZ = 11.3 \text{ cm}$ and $YZ = 4.5 \text{ cm}$, then the perimeter of triangle XYZ is closest to

- A. 20 cm.
- B. 21 cm.
- C. 23 cm.
- D. 25 cm.
- E. 31 cm.

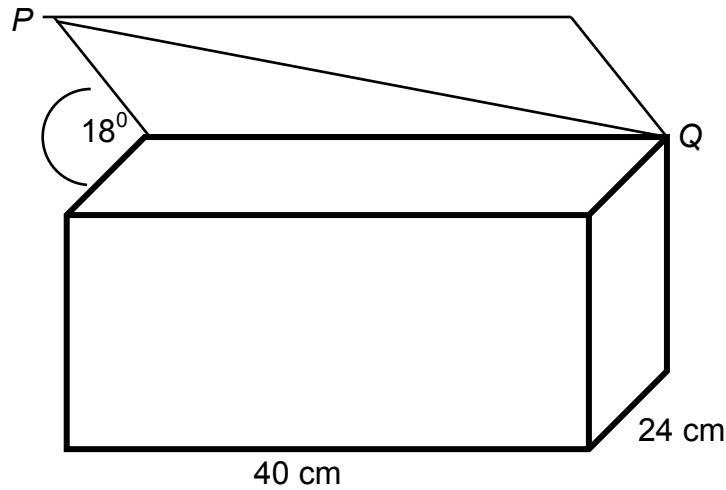
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Mathematics Questions by Topics

Measurement

Question 50

Source: K15FM1Q8



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