Pythagoras and trigonometry in 3D

Exit ticket ANSWERS Name _____

1. In a cuboid, the diagonal of the base AC is 12 cm and the height is 5 cm. Find the angle θ between AG and the base.

   22.6°

2. A cuboid has a base 9 cm by 12 cm. Find the length of the diagonal of the base.

   15 cm

3. A cuboid is 6 cm by 8 cm by 10 cm tall. Find the angle θ between the diagonal AG and the base.

   45.0°

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1 **In a cuboid, the diagonal of the base AC is 12 cm and the height is 5 cm. Find the angle θ between AG and the base.**

22.6°

TESTS The triangle standing up: tan θ = height ÷ AC

LOOK FOR
- 67.4° the ratio flipped: AC ÷ height
- 24.6° sine used: 5 is opposite, 12 is adjacent

FIX IT

In a cuboid, AC = 16 cm and the height is 7 cm. Find the angle between AG and the base. 23.6°

2 **A cuboid has a base 9 cm by 12 cm. Find the length of the diagonal of the base.**

15 cm

TESTS The diagonal of the base: Pythagoras

LOOK FOR
- 21 cm the sides added, not squared
- 225 cm not square rooted

FIX IT

A cuboid has a base 5 cm by 12 cm. Find the length of the diagonal of the base. 13 cm

3 **A cuboid is 6 cm by 8 cm by 10 cm tall. Find the angle θ between the diagonal AG and the base.**

45.0°

TESTS Both steps: AC, then the angle

LOOK FOR
- 51.3° an edge used, not AC
- 35.3° tan used with AG as the adjacent

FIX IT

A cuboid is 5 cm by 12 cm by 8 cm tall. Find the angle between AG and the base. 31.6°