



# GCSE Maths Takeaway 105 - 3D Pythagoras

Name: .....

Date: .....

What are the coordinates of point K which lies directly above point G?

**A** (6, 0, 4)      **B** (-3, 6, 4)

**C** (6, 0, -4)      **D** (6, -3, 0)

Correct Answer: A B C D

Explanation:

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A cuboid has sides  $x$  (red),  $y$  (blue) and  $z$  (yellow). Let  $r$  be the length of the longest diagonal (green). What is the equation for  $r$  in terms of  $x$ ,  $y$  and  $z$ ?

**A.**  $r^3 = x^3 + y^3 + z^3$   
**B.**  $r^2 = x^2 + y^2 + z^2$   
**C.**  $r^2 = x^2 + y^2$   
**D.**  $r^2 = y^2 + z^2$

Correct Answer: A B C D

Explanation:

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R and T are the points  $(-2, 3, 1)$  and  $(3, 5, 2)$  respectively. What is the length of the line RT ?

**A**  $\sqrt{6}$   
**B**  $\sqrt{24}$   
**C**  $\sqrt{30}$   
**D**  $\sqrt{74}$

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Correct Answer: A B C D

Explanation:

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P is the point  $(4, 3, -1)$  and Q is  $(-2, -1, 3)$ .  
 What is the length of PQ ?

A  $\sqrt{6}$   
 B  $\sqrt{12}$   
 C  $\sqrt{24}$   
 D  $\sqrt{68}$

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Correct Answer: A B C D

Explanation:

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What is the distance between the points  $(-2, 5, 3)$  and  $(4, -1, 1)$  ?

A 6  
 B 10  
 C  $2\sqrt{14}$   
 D  $2\sqrt{19}$

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Correct Answer: A B C D

Explanation:

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