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| **Title of unit:** | Pythagoras’ Theorem and Trigonometry |
| **Overview of unit:** | Pythagoras’ Theorem  Exact trigonometric values  SOH CAH TOA  Sine and cosine rules |
| **Cross-curricular/ extra-curricular links:** | Art/Design – architecture |
| **Literacy/ numeracy links:** | Worded problems/exam questions  Keywords displayed on all PPts – triangle, right angle, SOH CAH TOA, sine, cosine, tangent, area, Pythagoras’ Theorem, 2D, 3D, line, plane, side, angle  Written plenaries |

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| **Grade:** | **Learning objective:** | **Resources:** |
| **1** |  |  |
| **2** |  |  |
| **3** |  |  |
| **4** | Use Pythagoras’ Theorem to calculate the length of the hypotenuse of a right-angled triangle  Use Pythagoras’ Theorem to calculate the length of any side of a right-angled triangle  Use Pythagoras’ Theorem to calculate the height of an isosceles triangle | [Pythagoras’ Theorem](https://www.piximaths.co.uk/pythagoras-theorem) |
| **5** | Find the distance between two coordinates  Use Pythagoras’ Theorem in practical problems  Use SOHCAHTOA to calculate missing sides and angles in right-angled triangles  Know the exact values of sine, cosine and tangent at key angles (0, 30, 45, 60, 90 degrees) | [Pythagoras’ Theorem](https://www.piximaths.co.uk/pythagoras-theorem)  [SOHCAHTOA (trigonometry)](https://www.piximaths.co.uk/sohcahtoa)  [Exact trigonometry values and trigonometric graphs](https://www.piximaths.co.uk/exact-values-of-trigonometry) |
| **6** | Use Pythagoras’ Theorem in 3D  Find the angle between a line and a plane  Use the formula for area of a non-right-angled triangle | [Pythagoras’ Theorem](https://www.piximaths.co.uk/pythagoras-theorem)  [SOHCAHTOA (trigonometry)](https://www.piximaths.co.uk/sohcahtoa)  [Area of non-right-angled triangles (½ a b sin C)](https://www.piximaths.co.uk/sineandcosinerules) |
| **7** | Use the sine rule to find missing sides and angles in non-right-angled triangles  Use the cosine rule to find missing sides and angles in non-right-angled triangles. | [Sine rule](https://www.piximaths.co.uk/sineandcosinerules)  [Cosine rule](https://www.piximaths.co.uk/sineandcosinerules) |
| **8** | Understand when to use sine or cosine rule  Sketch the graphs of:  - y = sin x  - y = cos x  - y = tan x | [Trigonometry review (higher)](https://www.piximaths.co.uk/trigonometry-review)  [Exact trigonometry values and trigonometric graphs](https://www.piximaths.co.uk/exact-values-of-trigonometry) |
| **9** |  |  |