Teacher Notes

The following boarding card is intended to check that your students have a secure grasp of the knowledge required for this unit, with the intention of it being used diagnostically rather than as a summative test:

- Apply Pythagoras' theorem in two dimensions
- Know the trigonometric ratios, $\sin\theta$ = opp/hyp, $\cos\theta$ = adj/hyp, $\tan\theta$ = opp/adj
- Choose an appropriate trigonometric ratio that can be used in a given two-dimensional situation
- Set up and solve a trigonometric equation to find a missing side or angle in a right-angled triangle

<u>ANSWERS:</u>

1   8.1m (to 1dp)
2   5.2m (to 1dp)
3   90.1km (to 1dp)
4    $\sin\theta$ = opp/hyp, $\cos\theta$ = adj/hyp, $\tan\theta$ = opp/adj
5   5cm
6   10cm
7   20cm
8   53.1 (to 1dp)
9   53.1 (to 1dp)
10   5.2m (to 1dp)

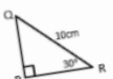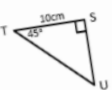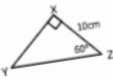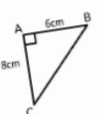Stage 11 Unit 1 take-off

Name: _____

Things to remember:

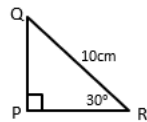**Destination: Investigating properties of shapes**

1. A ladder is 4m from the base of a vertical wall. It reaches 7m up the wall. How long is the ladder?.

2. Calculate the perpendicular height of an equilateral triangle of side 6cm using Pythagoras Theorem

3. A ship leaves Port, P, and sails due North for 50km. It then sails due East for a further 75km. How far is the ship from P?

4. Complete the trigonometric ratios: $\sin\theta$ = $\cos\theta$ = $\tan\theta$ =

5. In triangle PQR, QR = 10cm and angle PRQ = 30°. Find PQ

6. In triangle STU, ST = 10cm and angle STU = 45°. ST = 10cm Find SU

7. Find YZ

8. Find angle DFE

9. Find angle ABC

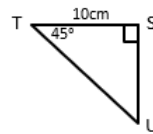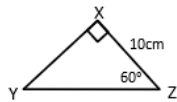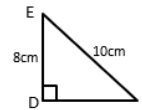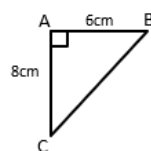10 Calculate the perpendicular height of an equilateral triangle of side 6cm using trigonometry

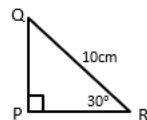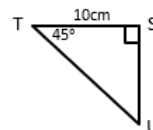## Destination: **Investigating properties of shapes**

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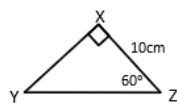4. Complete the trigonometric ratios: $\sin \theta =$ $\cos \theta =$ $\tan \theta =$

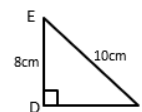5. In triangle PQR, QR = 10cm and angle PRQ = 30º. Find PQ

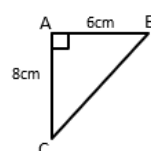6. In triangle STU, ST = 10cm and angle STU = 45º. ST = 10cm Find SU

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