1. You are provided with four diagrams of right triangle. For each triangle, solve for the required unknown. Be sure to properly present your solutions. In all four diagrams, angle B is the right angle.
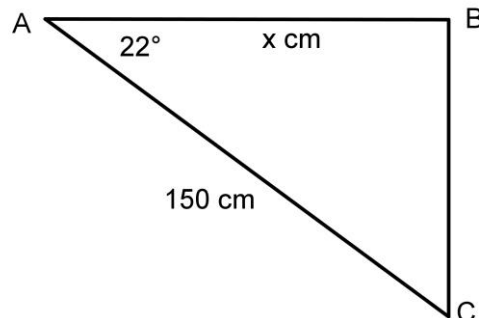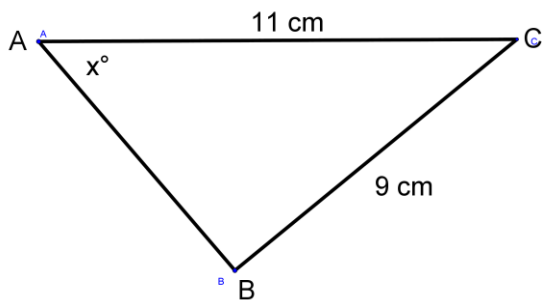
(a) Solve for side BC.

(K3/C1)
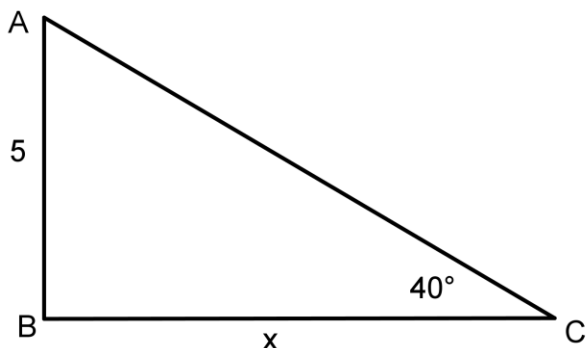
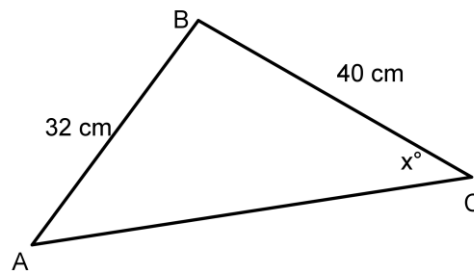(b) Solve for side AB.

(K3/C1)

(c) Solve for $\angle BAC$.

(K3/C1)

(d) Solve for $\angle BAC$.

(K3/C1)

2. You are provided with two diagrams with multiple triangles. Solve for the required unknown in each diagram, providing properly presented solutions. If you require assistance in thinking your way through HOW to set up the solution, intermediate "steps" may be "purchased" from your teacher (at the cost of T marks)
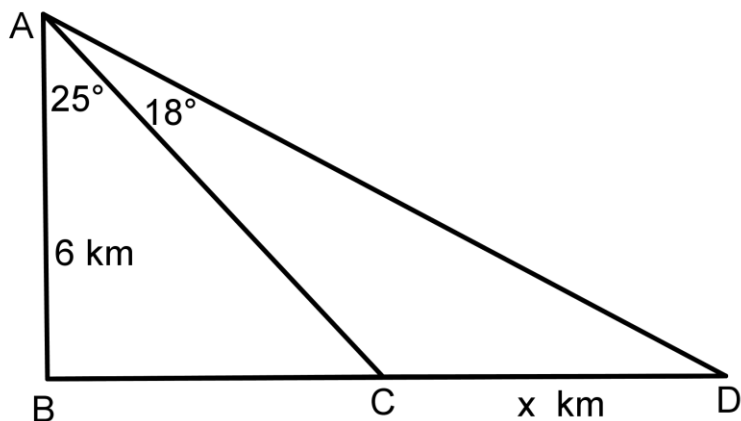
(a) Solve for $\angle CDA$

(A4/T2)

B
19 cm
37°
A
C
$x°$
D
31 cm
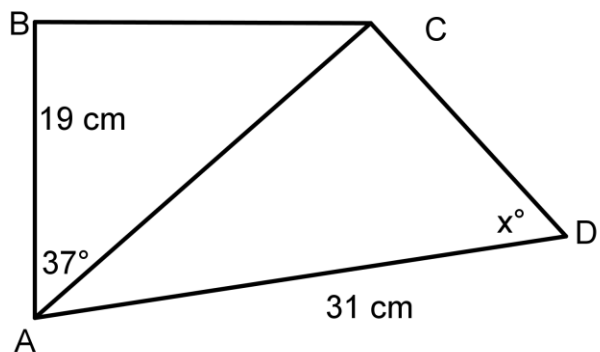
(b) Solve for side CD.

(A4/T2)

A
25° 18°
6 km
B
C
x km
D

3. Mr. Santowski is on top of the school, on the tennis courts, watching a soccer game on the MS field. The angle of depression he needs to observe the players on the ISM team bench is 21°. Mr. Santowski knows that the players' bench is 52 m from the foot of the wall of the school. Calculate the height of the tennis courts from which Mr. S is watching the game. Draw a diagram to illustrate this problem.
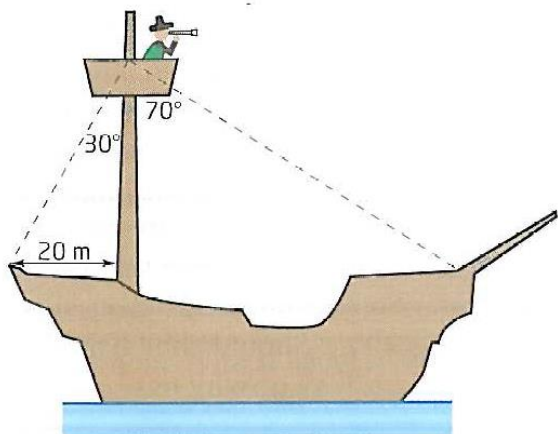
(A4,1C)

4. Captain Justin is sitting in the crow's-nest of his ship, as shown in the diagram.

(a) How high above the deck is Captain Justin? **(K2)**

(b) What is the length of Captain Justin's ship? **(A3)**

(c) How long is each wire holding up the crow's-nest? **(A3)**

5. Mr. Santowski is about to go rock climbing on the wall of a cliff. He wants to determine the height of the cliff, so from Point A, he observes the top of the cliff with an angle of elevation of 12°. He then moves directly forward 40 meters to Point B. From this new point, he notices the angle of elevation to now be 36°. Use this data to determine the height of the cliff. (a partial diagram is provided and hints can be "purchased" for T marks)

(T2,A2,K2)
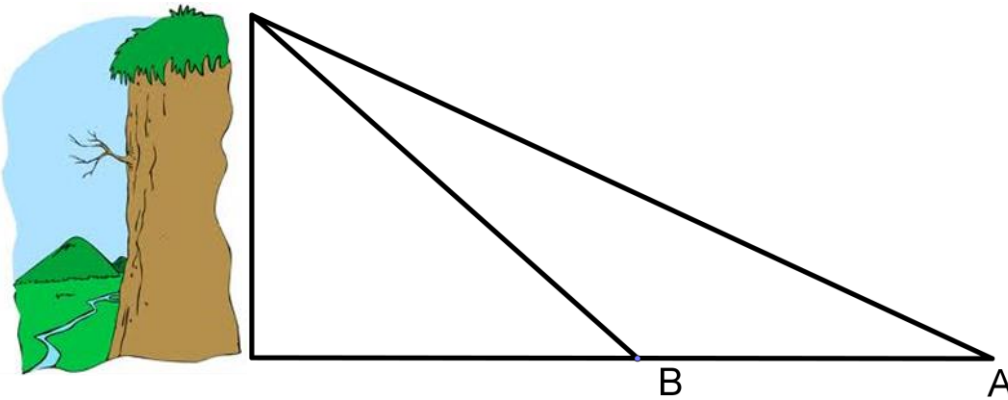
6. Given the diagram of a right triangle below, state whether this triangle can exist.

(T2)

B

11 cm

19 cm

37°

A

C
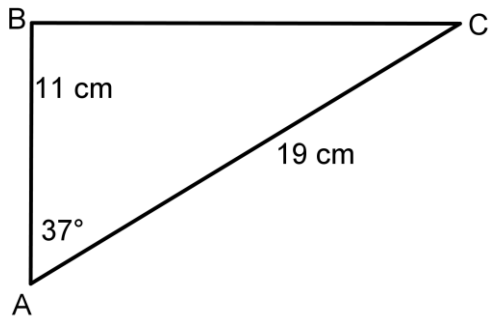
TEST SCORES:

Application (A)	Communication (C)	Knowledge (K)	Thinking/PS (T)	Overall Score
/22	/10	/20	/10	