

## Solutions

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Award method and answer marks as indicated; accept equivalent correct methods.

### 2.1

- $c = \sqrt{5^2 + 12^2} = \sqrt{169} = \mathbf{13}$  cm.

### 2.2

- $b = \sqrt{10^2 - 6^2} = \sqrt{64} = \mathbf{8}$  cm.

### 2.3

- $d = \sqrt{9^2 + 12^2} = \sqrt{225} = \mathbf{15}$  cm.

### 2.4

- $c = \sqrt{7^2 + 9^2} = \sqrt{130} = 11.4017 \dots = \mathbf{11.4}$  cm.

### 3.1

(a)

- $h = \sqrt{17^2 - 8^2} = \sqrt{225} = \mathbf{15}$  m.

(b)

- $h_2 = \sqrt{17^2 - 10^2} = \sqrt{189} = \mathbf{13.7}$  m to one decimal place.

(c)

- Use the unrounded value:  $\Delta h = 15 - \sqrt{189} = 1.2522 \dots = \mathbf{1.3}$  m.

### 3.2

(a)

- The east and north directions are perpendicular, so use  $d^2 = 8^2 + 6^2$ .
- $d = \mathbf{10}$  km.
- Saving  $s = 8 + 6 - 10 = \mathbf{4}$  km.

(b)

- The longest side would be the hypotenuse, so compare  $11^2$  with  $6^2 + 8^2$ .
- These give **121 and 100**.
- They are unequal, so the triangle is **not right-angled**.