1. A right-angled triangle has short sides 3 cm and 4 cm. Find the hypotenuse (cm).

   _____

2. In a right-angled triangle the hypotenuse is 10 cm and the angle is 30°. The opposite side = 10 × sin 30°. Find it (cm).

   _____

3. What is the exact value of sin 30°? (as a decimal)

   _____

4. A triangle has b = 7, c = 8 and the angle between them A = 40°. Using $a^2 = 49 + 64 - 2(7)(8)\cos 40° \approx 27.2$, find a (1 dp).

   _____

5. A box has a base 6 cm by 8 cm. Find the length of the base diagonal (cm).

   _____

6. The hypotenuse of a right-angled triangle is:

   ☐ the shortest side

   ☐ the longest side, opposite the right angle

   ☐ always 5 cm

   ☐ next to the right angle

7. The angle of elevation is measured from the vertical.

   ☐ True ☐ False

8. cos 60° = 1/2.

   ☐ True ☐ False

9. The area of any triangle (two sides a, b with angle C between them) is:

   ☐ ½ab

   ☐ $a^2 + b^2$

   ☐ ½ab sin C

   ☐ ab cos C

10. In a 3-D problem you look for a right-angled triangle inside the solid to work with.

    ☐ True ☐ False

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1. **5**

   $\sqrt{(3^2 + 4^2)} = \sqrt{25} = 5$ cm.

2. **5**

   10 × sin 30° = 10 × 0.5 = 5 cm.

3. **0.5**

   sin 30° = 1/2 = 0.5.

4. **5.2**

   a = $\sqrt{27.2} \approx 5.2$ cm.

5. **10**

   $\sqrt{(6^2 + 8^2)} = \sqrt{100} = 10$ cm.

6. **the longest side, opposite the right angle**

   The hypotenuse is the longest side and lies opposite the 90° angle.

7. **False**

   Angles of elevation and depression are both measured from the horizontal, not the vertical.

8. **True**

   cos 60° = 1/2 is one of the key exact values to memorise.

9. **½ab sin C**

   Area = ½ab sin C uses two sides and the included angle.

10. **True**

    The whole 3-D method is to reduce it to a flat right-angled triangle.