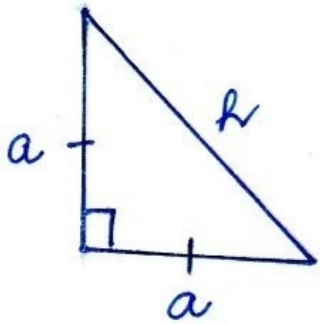
1. 

area of isosceles right $\triangle$ $= 8\,cm^2$

$$\frac{1}{2} a \times a = 8$$

$$\Rightarrow a^2 = 16$$

$$\Rightarrow a = \sqrt{16}$$

$$= 4\,cm$$

In rt $\triangle$

$$h^2 = a^2 + a^2 \quad \text{(pythagoras theorem)}$$

$$\Rightarrow h = \sqrt{2a^2}$$

$$= \sqrt{2}\,a$$

$$= \sqrt{2} \times 4$$

$$= 4\sqrt{2}\,cm \text{ or } \sqrt{32}\,cm \quad \text{(A)}$$

or

area of isosceles right $\triangle = 8\,cm^2$

$$\frac{1}{2} a \times a = 8$$

$$\Rightarrow a^2 = 16$$

In rt $\triangle$

$$h^2 = a^2 + a^2$$

$$= 2a^2$$

$$= 2 \times 16 \quad \because a^2 = 16$$

$$\Rightarrow h = \sqrt{32}\,cm$$