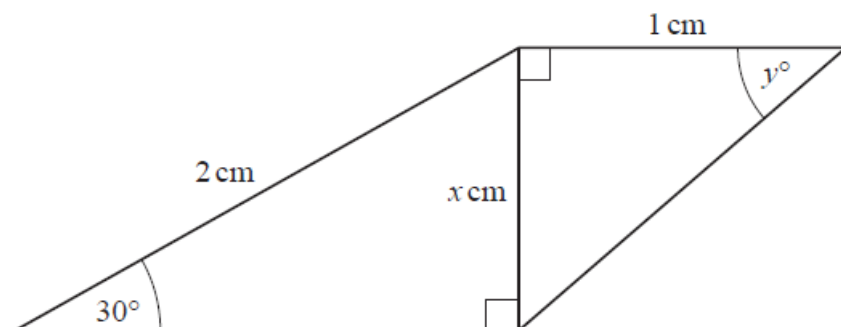




8.2 – Exact values for trigonometric ratios

Student name: _____ **Answers** _____ Score: _____

1.



NOT TO
SCALE

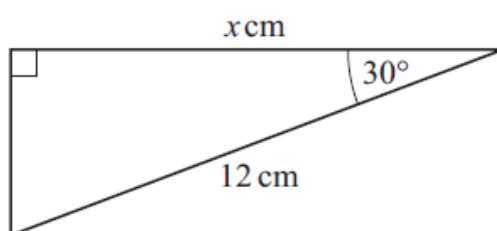
(a) Write down the value of x .

$$x = \dots\dots\dots 1 \dots\dots\dots [1]$$

(b) Find the value of y .

$$y = \dots\dots\dots 45^\circ \dots\dots\dots [2]$$

2.



NOT TO
SCALE

Find the exact value of x .

$$x = \dots\dots\dots 6\sqrt{3} \dots\dots\dots [3]$$

3. Write the list of numbers in order, starting with the smallest.

$$\sin 60^\circ$$

$$\cos 60^\circ$$

$$\tan 60^\circ$$

$$\sqrt{2}$$

$$\dots\dots\dots \cos 60^\circ < \dots\dots\dots \sin 60^\circ < \dots\dots\dots \sqrt{2} \dots\dots\dots < \dots\dots\dots \tan 60^\circ \dots\dots\dots [2]$$

4. x is an **obtuse** angle and $\sin x = \frac{1}{2}$.

Find the exact value of $\cos x$.

$$\dots\dots\dots \frac{\sqrt{3}}{2} \dots\dots\dots [2]$$

5. Solve the equation:

$$\sin x = \pm \frac{\sqrt{3}}{2} \text{ for } 0^\circ \leq x \leq 360^\circ$$

$$x = \dots\dots\dots 60^\circ, 120^\circ, 240^\circ, 300^\circ \dots\dots\dots [3]$$

6. Solve the equation.

$$\cos x = \frac{\sqrt{3}}{2} \quad \text{for } 0^\circ \leq x \leq 90^\circ$$

$$x = \dots\dots\dots 30^\circ \quad [1]$$

7. Solve the equation.

$$\cos x = -\frac{\sqrt{12}}{4} \quad \text{for } -180^\circ \leq x \leq 180^\circ$$

$$x = \dots\dots\dots 150^\circ \quad \text{or } x = \dots\dots\dots -150^\circ \quad [2]$$

8. (a) Solve.

$$\sin x = \frac{1}{2} \quad \text{for } 0^\circ \leq x \leq 90^\circ$$

$$x = \dots\dots\dots 30^\circ \quad [1]$$

- (b) Solve.

$$\sin x = -\frac{1}{2} \quad \text{for } 0^\circ \leq x \leq 360^\circ$$

$$x = \dots\dots\dots 210^\circ, 330^\circ \quad [2]$$

9. θ is an acute angle and $\tan \theta = \sqrt{3}$.

Write down the value of θ .

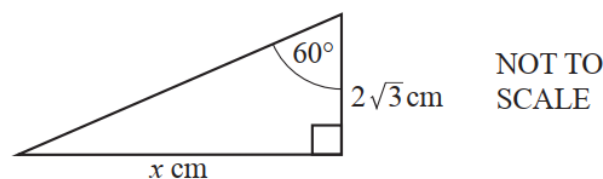
$$\theta = \dots\dots\dots 60^\circ \quad [1]$$

10. $\sin \theta = -\frac{1}{\sqrt{2}}$ and $0^\circ \leq \theta \leq 360^\circ$.

Find the two values of θ .

$$\theta = \dots\dots\dots 225^\circ \quad \text{or } \theta = \dots\dots\dots 315^\circ \quad [2]$$

- 11.



Find the value of x .

$$x = \dots\dots\dots 6 \quad [3]$$