

AQA, OCR, Edexcel

GCSE

GCSE Maths

Trigonometry Common Values
Answers

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Total Marks: /13

Trigonometry – Common Values

1. Calculate the following:

$$\begin{aligned}\cos(30^\circ) + \sin(60^\circ) \\ = \sqrt{3}\end{aligned}$$

(2 Marks)

2. Calculate the following:

$$\begin{aligned}12 \cos(60^\circ) - 8 \sin(30^\circ) \\ = 2\end{aligned}$$

(2 Marks)

3. Calculate the following:

$$\frac{\tan(45^\circ)}{\sin(30^\circ)} \times 10 \tan(60^\circ)$$

$$\frac{\tan 45}{\sin 30} = \frac{1}{0.5} = 2 \text{ and so } 2 \times 10 \tan 60 = 2 \times 10\sqrt{3} = 20\sqrt{3}$$

(2 Marks)

4. Calculate the following:

$$\tan(30^\circ) + \sin(60^\circ)$$

$$\text{Answer: } \tan 30 + \sin 60 = \frac{1}{\sqrt{3}} + \frac{\sqrt{3}}{2} = \frac{2}{2\sqrt{3}} + \frac{3}{2\sqrt{3}} = \frac{5}{2\sqrt{3}}$$

(2 Marks)

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5. Calculate the following:

$$\tan(30^\circ) + \sin(30^\circ)$$

$$\text{Answer: } \tan 30 + \sin 30 = \frac{1}{\sqrt{3}} + \frac{1}{2} = \frac{2}{2\sqrt{3}} + \frac{\sqrt{3}}{2\sqrt{3}} = \frac{2+\sqrt{3}}{2\sqrt{3}}$$

(2 Marks)

6. Calculate the following:

$$\frac{\tan(45^\circ) + \sin(30^\circ)}{\tan(60^\circ)} \times \cos(45^\circ)$$

Answer:

$$\frac{\tan 45 + \sin 30}{\tan 60} \times \cos 45 = \frac{1 + \frac{1}{2}}{\frac{\sqrt{3}}{1}} \times \frac{\sqrt{2}}{2} = \frac{1.5}{1} \times \frac{1}{\sqrt{3}} \times \frac{\sqrt{2}}{2} = \frac{1.5\sqrt{2}}{2\sqrt{3}} = \frac{3\sqrt{2}}{4\sqrt{3}}$$

(3 Marks)