Multiple choice questions - Trigonometry

Year: Year 12 · 10

Question 1 The cosine rule for side a is

- ◯ **A.** $a^2 = b^2 + c^2 + 2bc\cos A$
- ◯ **B.** $a^2 = b^2 + c^2 - 2bc\cos A$
- ◯ **C.** $a = b + c - 2\cos A$
- ◯ **D.** $a^2 = b^2 - c^2$

Question 2 180° in radians is

- ◯ **A.** π
- ◯ **B.** 2π
- ◯ **C.** $\frac{\pi}{2}$
- ◯ **D.** 180

Question 3 Arc length with $r = 5$, $\theta = 2$ rad is

- ◯ **A.** 5
- ◯ **B.** 10
- ◯ **C.** 25
- ◯ **D.** 2.5

Question 4 $\sin 30^\circ =$

- ◯ **A.** $\frac{\sqrt{3}}{2}$
- ◯ **B.** $\frac{1}{2}$
- ◯ **C.** $\frac{\sqrt{2}}{2}$
- ◯ **D.** 1

Question 5 $\sin^2\theta + \cos^2\theta =$

- ◯ **A.** 0
- ◯ **B.** 1
- ◯ **C.** 2
- ◯ **D.** $\tan\theta$

Question 6 The period of $y = \tan x$ is

- ◯ **A.** 360°
- ◯ **B.** 180°
- ◯ **C.** 90°

- **D.** 720°

Question 7 $\sin\theta = 0.6$ has solutions 36.9° and

- **A.** 143.1°
- **B.** 323.1°
- **C.** 216.9°
- **D.** 53.1°

Question 8 Area of a triangle with sides 4, 6 and included angle 30° is

- **A.** 12
- **B.** 6
- **C.** 24
- **D.** 3

Question 9 Sector area formula (radians) is

- **A.** $r\theta$
- **B.** $\frac{1}{2}r\theta$
- **C.** $\frac{1}{2}r^2\theta$
- **D.** $r^2\theta$

Question 10 The amplitude of $y = -4\cos x$ is

- **A.** -4
- **B.** 4
- **C.** 1
- **D.** $\frac{1}{4}$

Answer grid - Trigonometry

Year: Year 12

Question	Answer	Explanation
1	**B**	Minus 2bc cos A.
2	**A**	By definition.
3	**B**	$r\theta$.
4	**B**	Exact value.
5	**B**	Identity.
6	**B**	Repeats every 180°.
7	**A**	$180 - 36.9$.
8	**B**	$\frac{1}{2} \times 24 \times \frac{1}{2}$.
9	**C**	Fraction of the circle.
10	**B**	Amplitude is positive.