Trigonometry - Unit No. 6 Test # 1

Time: 30 Minutes Total Marks: 20

Part A: Multiple Choice Questions (1 mark each)

Q1. Convert 180° to radians.

- a) π
- b) $\pi/2$
- c) 2π
- d) 3π

Q2. Which identity is correct?

- a) $\sin^2\theta + \cos^2\theta = 1$
- b) $\sin\theta + \cos\theta = 1$
- c) $\tan\theta = \sin\theta$
- d) $\sec\theta = 1/\cos^2\theta$

Q3. If $\tan\theta = 1$, then θ = ?

- a) 0°
- b) 30°
- c) 45°
- d) 90°

Q4. $\sec^2\theta - \tan^2\theta$ = ?

- a) 1
- b) 0
- c) $\sin^2\theta$
- d) $\cos^2\theta$

Q5. What is the value of sin 30°?

- a) 0
- b) 1/2
- c) $\sqrt{3}/2$
- d) 1

Part B: Short Questions (2 marks each)

Q1. Define: Define Angle of Depression.

Q2. Find height of flagpole if angle of elevation is 60° and base = 40m.

Q3. Convert 75° 45' into radians.

Q4. Find the value of tan $\pi/6$.

Q5. Find angle of elevation if height = 72 m and base = 100 m.

Part C: Long Question (5 marks)

Q1. Solve a triangle where base = $\sqrt{13}$ cm, perpendicular = $\sqrt{3}$ cm. Find hypotenuse and angles.

Trigonometry - Unit No. 6 Test # 2

Time: 30 Minutes Total Marks: 20

Part A: Multiple Choice Questions (1 mark each)

Q1. If $\tan\theta = 1$, then $\theta = ?$

- a) 0°
- b) 30°
- c) 45°
- d) 90°

Q2. What is the value of $\cos \pi/3$?

- a) 0
- b) 1
- c) 1/2
- d) $\sqrt{3}/2$

Q3. $\sec^2\theta - \tan^2\theta = ?$

- a) 1
- b) 0
- c) $\sin^2\theta$
- d) $\cos^2\theta$

Q4. What is the value of sin 30°?

- a) 0
- b) 1/2
- c) $\sqrt{3}/2$
- d) 1

Q5. Convert 180° to radians.

- a) π
- b) $\pi/2$
- c) 2π
- d) 3π

Part B: Short Questions (2 marks each)

Q1. Define: Define Angle of Elevation.

Q2. Solve: Each side of a square field is 60 m. Find the diagonal.

Q3. Convert 75° 45' into radians.

Q4. Prove: $\sin\theta(\operatorname{cosec}\theta - \sin\theta) = 1/\sec^2\theta$

Q5. Convert 255° to radians.

Part C: Long Question (5 marks)

Q1. A 150m high tower casts an angle of depression of 60° to a ship. Find the distance to ship.

Trigonometry - Unit No. 6 Test # 3

Time: 30 Minutes Total Marks: 20

Part A: Multiple Choice Questions (1 mark each)

Q1. If $\tan\theta = 1$, then $\theta = ?$

- a) 0°
- b) 30°
- c) 45°
- d) 90°

Q2. The angle of elevation of sun if height = 300m and shadow = 450m?

- a) 60°
- b) 30°
- c) 45°
- d) 90°

Q3. What is the angle of elevation if height = 72m and base = 100m?

- a) 30°
- b) 45°
- c) 35.7°
- d) 60°

Q4. $\sec^2\theta - \tan^2\theta = ?$

- a) 1
- b) 0
- c) $\sin^2\theta$
- d) $\cos^2\theta$

Q5. What is the value of $\cos \pi/3$?

- a) 0
- b) 1
- c) 1/2
- d) $\sqrt{3}/2$

Part B: Short Questions (2 marks each)

Q1. Define: Define Trigonometry.

Q2. Solve: Each side of a square field is 60 m. Find the diagonal.

Q3. Convert 255° to radians.

Q4. Find angle of elevation if height = 72 m and base = 100 m.

Q5. Find height of flagpole if angle of elevation is 60° and base = 40m.

Part C: Long Question (5 marks)

Q1. Convert following angles to radians and degrees (i) 255°, (ii) $5\pi/6$.

Trigonometry - Unit No. 6 Test # 4

Time: 30 Minutes Total Marks: 20

Part A: Multiple Choice Questions (1 mark each)

Q1. What is the value of cos π/3?

- a) 0
- b) 1
- c) 1/2
- d) √3/2

Q2. $\sec^2\theta - \tan^2\theta = ?$

- a) 1
- b) 0
- c) $\sin^2\theta$
- d) $\cos^2\theta$

Q3. What is the angle of elevation if height = 72m and base = 100m?

- a) 30°
- b) 45°
- c) 35.7°
- d) 60°

Q4. What is the value of sin 30°?

- a) 0
- b) 1/2
- c) √3/2
- d) 1

Q5. If $\tan\theta = 1$, then $\theta = ?$

- a) 0°
- b) 30°
- c) 45°
- d) 90°

Part B: Short Questions (2 marks each)

Q1. Define: Define Hypotenuse in a right triangle.

Q2. Convert 75° 45' into radians.

Q3. Find the value of tan $\pi/6$.

Q4. Evaluate sin 60° and cos 60° without calculator.

Q5. Prove: $\sin\theta(\operatorname{cosec}\theta - \sin\theta) = 1/\sec^2\theta$

Part C: Long Question (5 marks)

Q1. Prove: $\sin\theta/(1 - \cos\theta) = (1 + \cos\theta)/\sin\theta$.

Trigonometry - Unit No. 6 Test # 5

Time: 30 Minutes Total Marks: 20

Part A: Multiple Choice Questions (1 mark each)

Q1. Convert 180° to radians.

- a) π
- b) $\pi/2$
- c) 2π
- d) 3π

Q2. If $\tan\theta = 1$, then $\theta = ?$

- a) 0°
- b) 30°
- c) 45°
- d) 90°

Q3. $\sec^2\theta - \tan^2\theta = ?$

- a) 1
- b) 0
- c) $\sin^2\theta$
- d) $\cos^2\theta$

Q4. What is the value of sin 30°?

- a) 0
- b) 1/2
- c) $\sqrt{3}/2$
- d) 1

Q5. What is the angle of elevation if height = 72m and base = 100m?

- a) 30°
- b) 45°
- c) 35.7°
- d) 60°

Part B: Short Questions (2 marks each)

Q1. Define: Define Radian.

Q2. Solve: Each side of a square field is 60 m. Find the diagonal.

Q3. Find height of flagpole if angle of elevation is 60° and base = 40m.

Q4. Convert 75° 45' into radians.

Q5. Find angle of elevation if height = 72 m and base = 100 m.

Part C: Long Question (5 marks)

Q1. A ladder makes 60° angle and reaches a height of 10 m. Find its length.