Chapter 6 Trigonometry

Course Number

Instructor

Date

Section 6.1 Angles and Their Measures

Objective: In this lesson you learned how to describe an angle and to convert between degree and radian measures.

Important Vocabulary	Define each term or concept.
Trigonometry	
Degree	
Complementary angles	
Supplementary angles	
Central angle of a circle	

What you should learn
How to describe angles

I. Angles (Page 454)

An **angle** is determined by . . .

The **initial side** of an angle is . . .

The **terminal side** of an angle is . . .

The **vertex** of an angle is . . .

An angle is in **standard position** when . . .

A **positive angle** is generated by a _____ rotation; whereas a **negative angle** is generated by a _____ rotation.

If two angles are **coterminal,** then they have . . .

II. Degree Measure (Pages 455–456)

What you should learn
How to use degree measure

A full revolution (counterclockwise) around a circle corresponds to _____ degrees. A half revolution around a circle corresponds to _____ degrees.

Angles with measures between 0° and 90° are _____ angles. Angles with measures between 90° and 180° are _____ angles.

To find an angle that is coterminal to a given angle q, . . .

Example 1: Find the supplement of 44°.

Example 2: Find the complement of 81°.

III. Radian Measure (Page 457)

What you should learn
How to use radian measure

One **radian** is the measure of a central angle q that . . .

A central angle of one full revolution (counterclockwise) corresponds to an arc length of s = _____.

In general, the radian measure of a central angle q is obtained by . . .

A full revolution around a circle of radius r corresponds to an angle of _____ radians. A half revolution around a circle of radius r corresponds to an angle of _____ radians.

Example 3: Find the supplement of $q = p/4$.

IV. Conversion of Angle Measure (Page 458)

What you should learn
How to convert between degree and radian measures

To convert degrees to radians, . . .

To convert radians to degrees, . . .

Example 4: Convert 120° to radians.

Example 5: Convert $9p/8$ radians to degrees.

Example 6: Complete the following table of equivalent degree and radian measures for common angles.

q (degrees)	0°		45°		90°		270°
q (radians)		$p/6$		$p/3$		p	

V. Applications of Angles (Pages 459–460)

What you should learn
How to use angles to model and solve real-life problems

To find the length s of a circular arc of radius r and central angle q, . . .

Consider a particle moving at constant speed along a circular arc of radius r. If s is the length of the arc traveled in time t, then the **linear speed** of the particle is

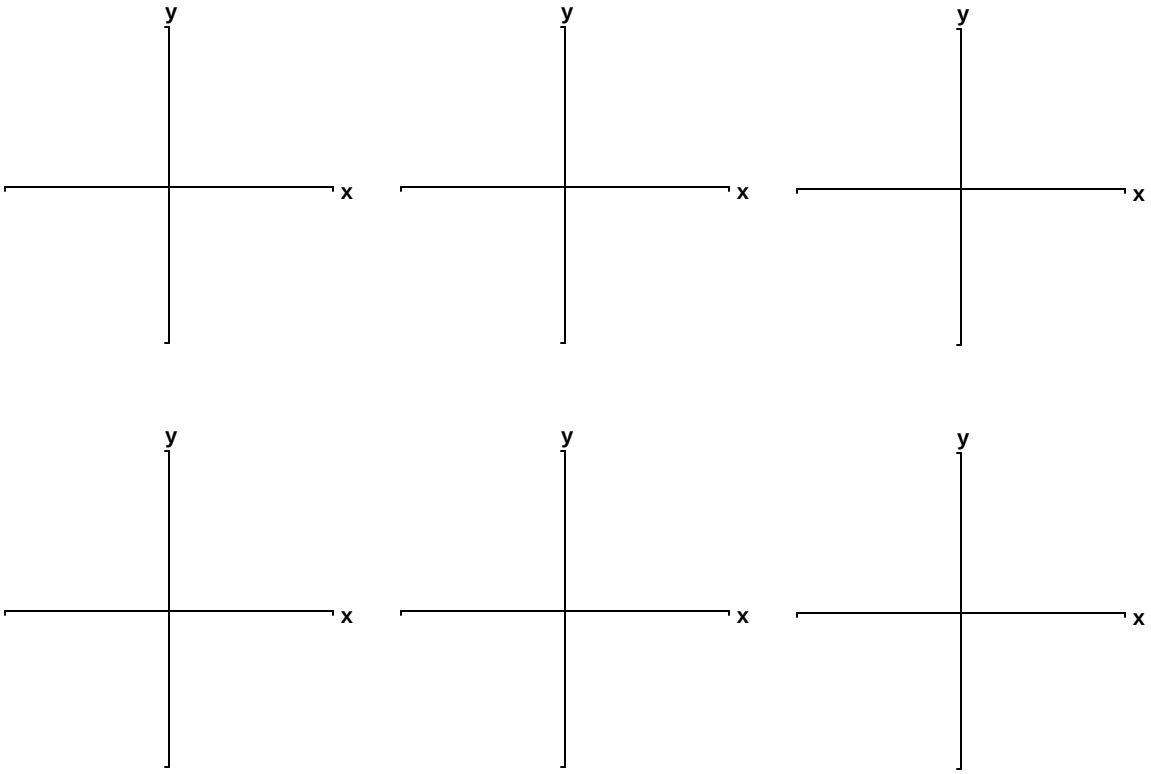
linear speed = _____

If q is the angle (in radian measure) corresponding to the arc length s, then the **angular speed** of the particle is

angular speed = _____

Example 7: A 6-inch-diameter gear makes 2.5 revolutions per second. Find the angular speed of the gear in radians per second.

Additional notes



Homework Assignment

Page(s)

Exercises