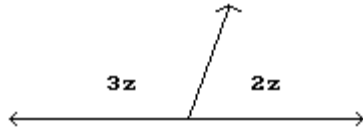# Math 1316 - Practice 1 - Spring 2020

MULTIPLE CHOICE SECTION. (5 pts each) Choose the correct answer for each question. Select one choice only. No work will be graded. No partial credit.

Find the measure of each angle in the problem.

1)   1) _____

$3z$ $2z$

A) 60° and 40°   B) 100° and 80°   C) 108° and 72°   D) 216° and 144°

Provide an appropriate response.

2) Find the complement of an angle whose measure is 37°10′50″.   2) _____

   A) 52°50′10″   B) 52°49′10″   C) 53°50′10″   D) 52°49′9″

Convert the angle to degrees, minutes, and seconds.

3) 20.92°   3) _____

   A) 20°65′12″   B) 20°55′12″   C) 20°65′2″   D) 20°55′2″

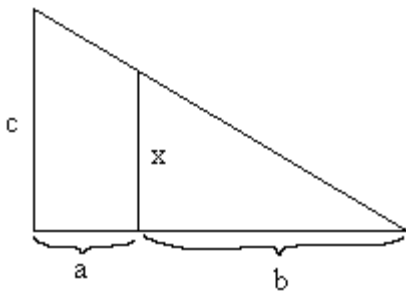**The triangles are similar. Find the missing side, angle or value of the variable.**

4) x   4) _____

c

x

a b

a = 25
b = 75
c = 52

   A) x = 52   B) x = 26   C) x = 39   D) x = 13

An equation of the terminal side of an angle θ in standard position is given along with a restriction on x. Find the indicated trigonometric function value of θ. Do not use a calculator.

5) $-9x + y = 0$, $x \geq 0$;   Find $\sin \theta$.   5) _____

   A) $\dfrac{9\sqrt{82}}{82}$ B) 9   C) $\dfrac{1}{9}$ D) $\dfrac{\sqrt{82}}{82}$

Evaluate the expression.

6) $2 \tan^2 0° - 7 \sin^2 360° + 3 \csc^2 270°$ 6) _____

   A) 3   B) −3   C) 5   D) −4

Use the appropriate identity to find the indicated function value. Rationalize the denominator, if applicable. If the given value is a decimal, round your answer to three decimal places.

7) csc θ, given that sin θ = $\dfrac{\sqrt{11}}{6}$

7) _____

    A) $\dfrac{\sqrt{11}}{6}$ B) $\dfrac{\sqrt{11}}{11}$ C) $\dfrac{11\sqrt{11}}{6}$ D) $\dfrac{6\sqrt{11}}{11}$

Use the fundamental identities to find the value of the trigonometric function.

8) Find cot θ, given that csc θ = $-\dfrac{3}{2}$ and θ is in quadrant III.

8) _____

    A) $-\dfrac{2\sqrt{5}}{5}$ B) $-\dfrac{\sqrt{5}}{3}$ C) $\dfrac{\sqrt{5}}{2}$ D) $-\dfrac{3\sqrt{5}}{5}$

Suppose ABC is a right triangle with sides of lengths a, b, and c and right angle at C. Find the unknown side length using the Pythagorean theorem and then find the value of the indicated trigonometric function of the given angle. Rationalize the denominator if applicable.

9) Find sin A when a = 4 and b = 5.

9) _____

    A) $\dfrac{5\sqrt{41}}{41}$ B) $\dfrac{\sqrt{41}}{4}$ C) $\dfrac{4\sqrt{41}}{41}$ D) $\dfrac{\sqrt{41}}{5}$

Write the function in terms of its cofunction. Assume that any angle in which an unknown appears is an acute angle.

10) tan(θ + 22°)

10) _____

    A) tan(68° − θ)   B) cot(68° − θ)   C) cot(112° − θ)   D) cot(158° − θ)

Find the reference angle for the given angle.

11) −403°

11) _____

    A) 133°   B) 43°   C) 137°   D) 47°

Find the sign of the following.

12) sec (−θ), given that θ is in the interval (180°, 270°).

12) _____

    A) positive   B) negative

SHORT ANSWER SECTION. (5 pts each) WRITE THE ANSWER IN THE BOX. Write the FINAL ANSWER ONLY (do NOT write any work). No work will be graded. No partial credit.

Find the angle of least positive measure coterminal with the given angle.

13) 1280°

13) _____

Write ANSWER ONLY:

Suppose that θ **is in standard position and the given point is on the terminal side of** θ. **Give the exact value of the indicated trig function for** θ.

14) (18, 24); Find csc θ.

14) _____

Write ANSWER ONLY:

Find a solution for the equation. Assume that all angles are acute angles.

15) $\tan(3\theta + 16°) = \cot(\theta + 4°)$

15) _____

Write ANSWER ONLY:

Find all values of θ, **if** θ **is in the interval [0, 360°) and has the given function value.**

16) $\cos \theta = -\dfrac{\sqrt{3}}{2}$

16) _____

Write ANSWER ONLY:

ESSAY. (10 pts each) Show all work to justify your answer. Answer with no work or insufficient work will receive no credit. Partial credit may be given

Use the fundamental identities to find the value of the trigonometric function.

17) Find csc θ, given that cot $\theta = -\sqrt{15}$ and θ is in quadrant II.

SHOW ALL WORK:

Find the reference angle. Then use the reference angle to find the exact value of the trigonometric function value. (No calculator, show all work).

18) tan 2130°

SHOW ALL WORK:

Answer Key
Testname: 1316-PRACTICE1-SPR20

1) C
2) B
3) B
4) C
5) A
6) A
7) D
8) C
9) C
10) B
11) B
12) B
13) 200°
14) $\dfrac{5}{4}$
15) 17.5°
16) 150° and 210°
17) 4
18) $-\dfrac{\sqrt{3}}{3}$