

**Student:** \_\_\_\_\_  
**Date:** \_\_\_\_\_  
**Time:** \_\_\_\_\_

**Instructor:** Andy Davis  
**Course:** MATH 130 -  
TRIGONOMETRY (4 UNITS) Fall  
2008  
**Book:** Sullivan: Trigonometry: A Unit  
Circle Approach, 8e

**Assignment:** Homework 3: Functions  
and Trig Functions

1. the first choice  
the second choice  
the third choice

2. the second choice  
the fourth choice  
the first choice

3. 148  
 $2x^2 - 2x + 4$   
 $-2x^2 - 2x - 4$   
 $2x^2 + 4hx + 2h^2 + 2x + 2h + 4$

4. 
$$\frac{-\frac{20}{23} - 5x}{x^2 + 7 - 5x}$$
$$\frac{x^2 + 7}{5x + 5h}$$
$$\frac{x^2 + 2xh + h^2 + 7}{5x + 5h}$$

5. 
$$\frac{4}{\frac{11}{7x-3} - \frac{2x+9}{7x+3} - \frac{2x-9}{7x+7h+3}}$$
$$2x + 2h - 9$$

6.  $(-\infty, \infty)$

7.  $(-\infty, 0) \cup (0, \infty)$

8.  $[8, \infty)$

9.  $(5, \infty)$

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10.     - 6  
          6  
          the second choice  
          2  
          - 10, 16  
          [ - 12, 22]  
          [ - 6, 8]
11.     N/A
12.     the first choice  
          [ -  $\pi$ ,  $\pi$ ]  
          [ - 1, 1]  
           $\left(\frac{\pi}{2}, 0\right), \left(-\frac{\pi}{2}, 0\right), (0, 1)$   
          the second choice
13.     the first choice  
           $(-\infty, 0)$   
           $(-\infty, \infty)$   
           $(-1, 0)$   
          the fourth choice
14.     D
15.     37.071  
          2.78  
          2.96
16.      $\frac{\sqrt{3}}{2}$   
           $-\frac{1}{2}$   
           $-\frac{\sqrt{3}}{2}$   
           $\frac{2\sqrt{3}}{3}$   
           $-\frac{3}{2}$   
           $-\frac{\sqrt{3}}{3}$

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17.

$$\frac{-\frac{1}{\sqrt{3}}}{-\frac{2}{\sqrt{3}}}$$
$$-\frac{2}{\sqrt{3}}$$
$$-\frac{3}{2\sqrt{3}}$$
$$-\frac{3}{-\sqrt{3}}$$

18.

$$\frac{\sqrt{2}}{3\sqrt{7}}$$
$$-\frac{3}{\sqrt{14}}$$
$$-\frac{7}{3\sqrt{2}}$$
$$-\frac{2}{3\sqrt{7}}$$
$$-\frac{7}{\sqrt{14}}$$
$$\frac{2}{2}$$

19.

$$-\frac{1}{\frac{5}{2\sqrt{6}}}$$
$$-\frac{5}{\sqrt{6}}$$
$$-\frac{12}{-5}$$
$$\frac{5\sqrt{6}}{12}$$
$$-\frac{12}{-2\sqrt{6}}$$

20.

1

21.

0

22.

the first choice

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23. 1

24. -1

25.  $\frac{1 + \sqrt{2}}{2}$

26. 2

27.  $\frac{\sqrt{3}}{4}$

28.  $2\sqrt{3}$

29. 5

30.  $3\sqrt{3} - 4$

31.  $\frac{1 - \sqrt{2}}{2}$

32.  $4\sqrt{2} + 2\sqrt{3}$

33. 1

34. -2

35.  $\frac{\sqrt{2}}{2}$   
 $-\frac{\sqrt{2}}{2}$   
 $-\frac{1}{2}$   
 $\sqrt{2}$   
 $-\sqrt{2}$   
-1

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36. 
$$\frac{\frac{1}{2}}{\frac{\sqrt{3}}{2}}$$
$$\frac{2}{\sqrt{3}}$$
$$\frac{2^3}{2\sqrt{3}}$$
$$\frac{3}{\sqrt{3}}$$

37. 
$$\frac{-\sqrt{2}}{\sqrt{2}^2}$$
$$\frac{2}{-1}$$
$$\frac{-1}{\sqrt{2}}$$
$$-\sqrt{2}$$

38. 
$$\frac{\sqrt{3}}{2}$$
$$\frac{1}{2}$$
$$\frac{2}{\sqrt{3}}$$
$$\frac{\sqrt{3}}{2^3}$$
$$\frac{2\sqrt{3}}{3}$$

39. 
$$\frac{-\sqrt{2}}{\frac{2}{\sqrt{2}}}$$
$$\frac{1}{2}$$
$$\frac{1}{-\sqrt{2}}$$
$$-\sqrt{2}$$

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40.

$$\frac{-\frac{1}{2}}{\sqrt{3}}$$
$$-\frac{2}{\sqrt{3}}$$
$$-\frac{2^3}{2\sqrt{3}}$$
$$\frac{3}{-\sqrt{3}}$$

41.

$$-\frac{\sqrt{3}}{2}$$
$$\frac{1}{2}$$
$$-\sqrt{3}$$
$$-\frac{2\sqrt{3}}{3}$$
$$2$$
$$-\frac{\sqrt{3}}{3}$$

42.

0  
1  
0  
Not defined  
1  
Not defined

43.

1  
0  
N  
1  
N  
0

44.

0.66

45.

1.96

46.

3.86

47.

0.97

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48. 0.29

49. 1.04