**Geometry Honors Unit 6 (Chapter 8) Test Review** **Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ *SHOW ALL WORK BELOW EACH PROBLEM.* Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Block\_\_\_\_\_\_**

**1-6: Simplify each radical expression. Write your answers in simplified radical form.**

**1.**  = \_\_\_\_\_\_\_\_\_\_\_  **2.**  = \_\_\_\_\_\_\_\_\_\_\_\_ **3.**  = \_\_\_\_\_\_\_\_\_\_\_

**4.** ()2 = \_\_\_\_\_\_\_\_\_\_\_ **5.**  = \_\_\_\_\_\_\_\_\_\_\_\_ **6.**  = \_\_\_\_\_\_\_\_\_\_\_

**7-9: Find the Geometric Mean of each pair of numbers in simplified radical form and to the nearest tenth.**

**7.** 8 and 12 \_\_\_\_\_\_\_\_\_\_\_\_ **8.** 3 and 15 \_\_\_\_\_\_\_\_\_\_\_\_ **9.** and 2 \_\_\_\_\_\_\_\_\_\_\_\_

**10-13: Are these the sides of a right triangle, obtuse triangle, or acute triangle? Show your work!**

*If it is a right triangle, tell whether or not it is a Pythagorean Triple.*

**10.** 5, 12, and 13\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**11.** 4, 5, and 6 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**12.** 1, , and 2\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**13.** 5, 10, and 12 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**14-18: Find each side length expressed in simplified radical form AND in decimal form rounded to the tenth.**

**14.** x = \_\_\_\_\_\_ y = \_\_\_\_\_\_ z = \_\_\_\_\_\_ **15.** x = \_\_\_\_\_\_ y = \_\_\_\_\_\_ z = \_\_\_\_\_\_

4

z

x

8

y

x

y

z

60°

z

30°

**16.** x = \_\_\_\_\_\_\_ **17.** x = \_\_\_\_\_\_\_ **18.** x = \_\_\_\_\_\_\_

8

11

x

x



x

12

16

**19-26: Find each side length expressed in simplified radical form AND in decimal form rounded to the tenth.**

**19.** x = \_\_\_\_\_ y = \_\_\_\_\_ **20.** x = \_\_\_\_\_ y = \_\_\_\_\_ **21.** x = \_\_\_\_\_ y = \_\_\_\_\_

x

 y

 30°



x

y

5

60°

45°

12

y

x

**22.** x = \_\_\_\_\_ y = \_\_\_\_\_ **23.** x = \_\_\_\_\_ y = \_\_\_\_\_ **24.** x = \_\_\_\_\_ y = \_\_\_\_\_

45°

x

y



 9

 y

 x

 60°

1. 8

 x

 y

 8

**25.** a = \_\_\_\_ b = \_\_\_\_\_ c = \_\_\_\_\_ d = \_\_\_\_\_ **26.** e = \_\_\_\_\_ f = \_\_\_\_\_ g = \_\_\_\_\_

g

5

4

e

f

a

c

18

30°

b

d

45°

**27-34: Write each trigonometric ratio as a fraction in simplest form AND as a decimal rounded to 2 places.**

6

 8

 10

 10

 X

 Z

Y

**27.** sin X = \_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **31.** sin Y = \_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**28.** cos X = \_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **32.** cos Y = \_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**29.** tan X = \_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **33.** tan Y = \_\_\_\_\_\_\_\_\_ = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**30.** What is m∠X? \_\_\_\_\_\_\_\_\_ **34.** What is m∠Y? \_\_\_\_\_\_\_\_\_

**35-43: Find the value of x. Round sides to the nearest tenth and angles to the nearest degree.**

**35.** x = \_\_\_\_\_\_\_\_\_ **36.** x = \_\_\_\_\_\_\_\_\_ **37.** x = \_\_\_\_\_\_\_\_\_



115 m

42 m

x°

50ft

x

32°

x

37

48°

**38.** x = \_\_\_\_\_\_\_\_\_ **39.** x = \_\_\_\_\_\_\_\_\_ **40.** x = \_\_\_\_\_\_\_\_\_

600 ft.

x

45°

x

14.5

51°

6

3.5

x°

**41.** x = \_\_\_\_\_\_\_\_\_ **42.** x = \_\_\_\_\_\_\_\_\_ **43.** x = \_\_\_\_\_\_\_\_\_

15,000 ft

x

51°

120 ft.

15°

x

1,000 ft.

12,000 ft

x°

**44-45: Solve each triangle. Show your work below each problem and fill in the blanks with sides rounded to the nearest tenth and angles rounded to the nearest degree.**

A

B

C

7

18°

D

F

E

15

4

 **44.** m ∠ C = \_\_\_\_\_\_\_\_\_\_\_\_\_ **45.** m ∠ D = \_\_\_\_\_\_\_\_\_\_\_\_

 AC = \_\_\_\_\_\_\_\_\_\_\_\_\_ m ∠ E = \_\_\_\_\_\_\_\_\_\_\_\_\_

 BC = \_\_\_\_\_\_\_\_\_\_\_\_\_ DE = \_\_\_\_\_\_\_\_\_\_\_\_\_

**46-49: Solve each word problem. Complete each picture, show your work, and round all answers to the nearest integer.**

1. Jacob went to the Norfolk Zoo. The angle of depression from the 20 foot giraffe to Jacob was 47°.

 How far away from the giraffe’s feet was Jacob?



 \_\_\_\_\_\_\_\_\_\_\_\_\_

1. A captain of a ship spots the top of a lighthouse at a 35° angle of elevation. He knows that the

 lighthouse is 63 feet above the shore line. How far is the ship from lighthouse?

 \_\_\_\_\_\_\_\_\_\_\_\_\_

1. A coconut fell from a 12 foot palm tree and rolled about 15 feet away from it. Find the angle of

 elevation from the coconut to top of the palm tree.

 \_\_\_\_\_\_\_\_\_\_\_\_\_

1. A woman standing on a cliff at the edge of the ocean spots a raft. The cliff is 18 meters above sea level and the angle of depression to the ocean is 7°. Find the distance from the raft to the base of the cliff.

 \_\_\_\_\_\_\_\_\_\_\_\_\_