**Geometry** (G-SRT.9-11) Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
**Unit 2: Assessment #4 Review 2** (HW34)Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_\_

1. Solve triangle EFG given that e = 33, g = 22, and E = 74˚. Draw a picture. Round angles to the nearest degree and sides to the nearest tenth.

 $m∠F=180-74-40=66⁰$

 $\frac{sin66}{f}=\frac{sin74}{33}$

 $f=\frac{33sin66}{sin74}$

 f ≈ 31.36

 $\frac{sin74}{33}=\frac{sinG}{22}$

 $sinG=\frac{22sin74}{33}$

 G = sin-1 (Ans)

 G ≈ 40⁰

F

66⁰

33

22

40⁰

74⁰

G

E

1. Solve triangle ABC given that $m∠A=56˚$, $m∠B=47˚$, and *b* = 61. Round your answers to the nearest hundredth.

 $m∠C=180-47-56=77⁰$

 $\frac{sin47}{61}=\frac{sin56}{a}$

 $a=\frac{51sin56}{sin47}$

 $a$ ≈ 69.15

B

 $\frac{sin47}{61}=\frac{sin77}{c}$

 $c=\frac{61sin77}{sin47}$

 $c$ ≈ 81.27

47⁰

56⁰

C

A

61

1. Solve triangle ABC given that *a* = 17, *b* = 13, and *c* = 15. Draw a picture and round to the nearest degree.

B

 $17^{2}=15^{2}+13^{2}-2\left(15\right)\left(13\right)\cos(A)$

 A ≈ 74⁰

 $\frac{sin74}{17}=\frac{sinB}{13}$

 $sinB=\frac{13sin74}{17}$

 B = sin-1 $\frac{13sin74}{17}$

 B ≈ 47⁰

15

17

13

C

A

 $m∠C=180-74-47=59⁰$

1. Suppose that three campers have two-way radios with a range of 7920 feet. The distance between sites #1 and #2 is 5750 feet, and the distance between sites #1 and #3 is 6690 feet. If the angle formed with site #1 at the vertex is 82$°$. How far apart are sites #2 and #3 (Round to the nearest whole number)? Can the campers at those sites communicate with their radios?

 $x^{2}=5750^{2}+6690^{2}-2\left(5750\right)\left(6690\right)\cos(82)$

 x ≈ 8192 ft → No, farther than range of 7920 ft

#2

x

5750 ft

#3

6690 ft

#1

1. Find the area of the figure to the nearest tenth **two** different ways.

B

1

Area = ½ (13)(11)sin61

Area ≈ 62.5 u2

29˚

13

h = 11.37

61⁰

Area = ½ (11)(11.37)

Area ≈ 62.5 u2

2

C

A

11

cos29 = $\frac{h}{13}$

$h$ = 13cos29

$h$ ≈ 11.37