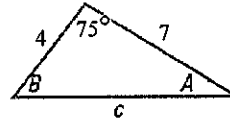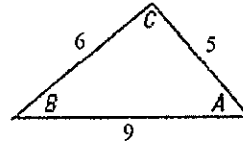|	
Student: _____ Date: _____	**Instructor:** Joe Betters **Course:** Pre-Calculus Pre AP (Master Course) **Assignment:** 8.4 Classwork Day 1

1. Find the area K of the triangle.

K = _____ square units

(Round to two decimal places as needed.)

2. Find the area K of the triangle.

K = _____ square units

(Round to two decimal places as needed.)

3. Use the formula given below to find the area of the triangle specified by $\alpha = 30°$, $\beta = 40°$, and $a = 10$.

$$A = \frac{a^2 \sin\beta \sin\gamma}{2 \sin\alpha}$$

The area is _____ square units.

(Do not round until the final answer. Then round to two decimal places as needed.)

4. Find the area of the segment (shaded in blue in the figure) of a circle whose radius is 2 feet, formed by a central angle of 70°.

   [Hint: Subtract the area of the triangle from the area of the sector to obtain the area of the segment.]
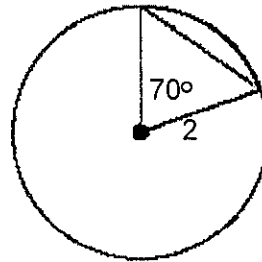
The area of the segment is approximately _____ square feet.

(Do not round until the final answer. Then round to two decimal places as needed.)

5. **Computing Areas** Find the area of the shaded region enclosed in a semicircle of diameter 3 centimeters. The length of the chord AB is 2 centimeters.

   [Hint: Triangle ABC is a right triangle.]
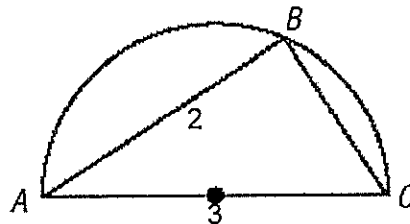
The area is approximately _____ square centimeters

(Do not round until the final answer. Then round to two decimal places as needed.)
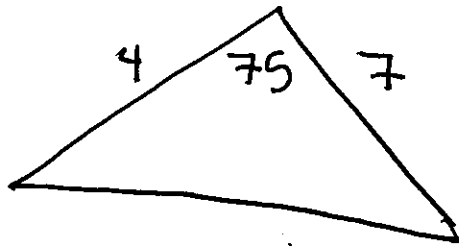
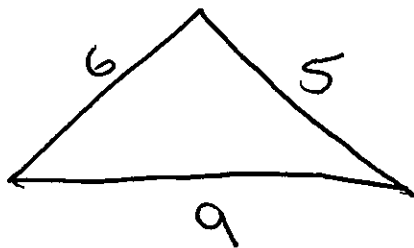1. 13.52

2. 14.14

3. 60.40

4. 0.56

5. 1.30

8.4 cw day 1

①

$$K = \frac{1}{2}(4)(7) \sin 75$$

$$\boxed{Area = 13.52 \, units^2}$$

②

$$S = \frac{1}{2}(6+5+9) = 10$$

$$K = \sqrt{10(10-6)(10-5)(10-9)}$$

$$\boxed{K = 14.14 \, units^2}$$

8.4 cw day 1

③ $A = \dfrac{a^2 \sin\beta \sin\gamma}{2 \sin\alpha}$

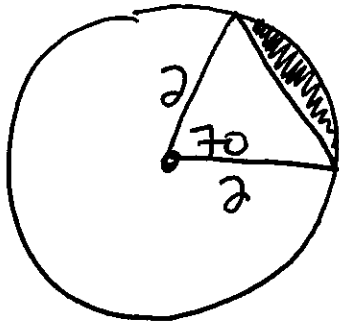$\gamma = 180 - 30 - 40 = 110$

$\alpha = 30$

$\beta = 40$

$a = 10$

$A = \dfrac{10^2 \sin 40 \sin 110}{2 \sin 30}$

$\boxed{A = 60.40}$

④

*θ in Radians

Sector $= \frac{1}{2} r^2 \theta$
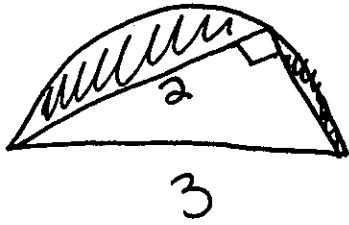
$= \frac{1}{2} (2)^2 (70)(\pi/180) = 2.44346$

triangle $= \frac{1}{2} (2)(2) \sin 70 = 1.87939$

$2.44346 - 1.87939 = \boxed{.56}$

⑤

$2^2 + x^2 = 3^2$

$x = \sqrt{5}$

~~Area~~

Area $\triangle = \frac{1}{2}(2)(\sqrt{5})(\sin 90)$

$= 2.236$

Area $\frac{1}{2}$ circe $= \frac{\pi r^2}{2}$

$= \frac{\pi (1.5)^2}{2}$

$= 3.534$

$3.534 - 2.236 = \boxed{1.30}$