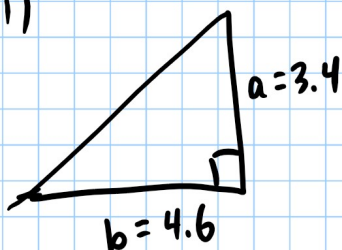


WARMUP

Which method would you use to solve each triangle?

1)



Law of Cosines

OR

SOH CAH TOA

2) $a = 3.5$ $b = 6.3$ $c = 7.1$

Cosines

3) $a = 5.3$ $c = 7.5$ $\beta = 63^\circ$

Cosines

4) $\alpha = 38^\circ$ $\beta = 65^\circ$ $b = 6.3$

Sines

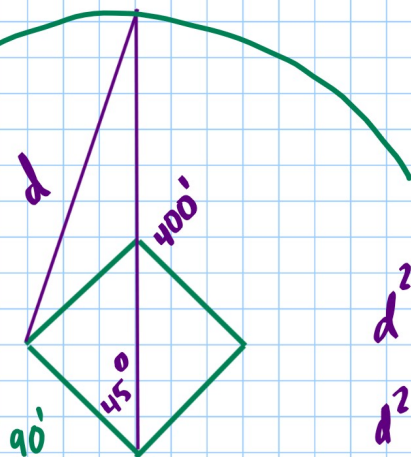
Today 7.4

Tomorrow - Practice Test

Thursday - Go over Prac Test - PPP

Friday - Test

33)

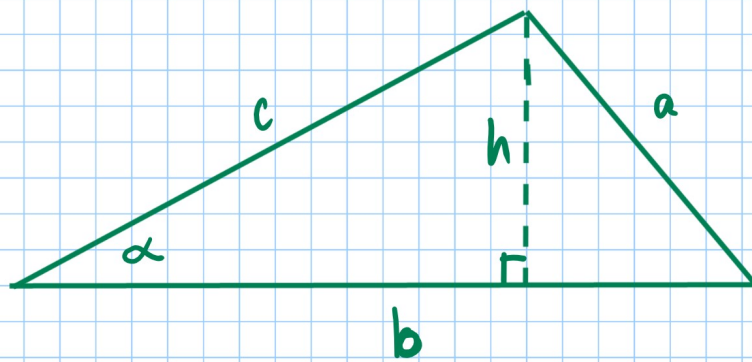


$$d^2 = 90^2 + 400^2 - 2 \cdot 90 \cdot 400 \cdot \cos 45^\circ$$

$$d^2 = 117188.31$$

$$d = 342.3'$$

Section 7.4 Areas of Triangles



$$A = \frac{1}{2}bh$$

$$\sin \alpha = \frac{h}{c}$$

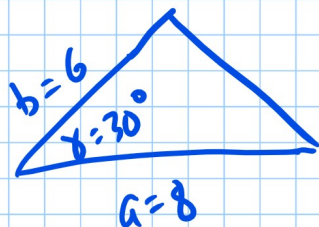
$$c \sin \alpha = h$$

$$A = \frac{1}{2}bc \sin \alpha$$

$$A = \frac{1}{2}ac \sin \beta$$

$$A = \frac{1}{2}ab \sin \gamma$$

ex: Find area if $a=8$, $b=6$, $\gamma=30^\circ$



$$A = \frac{1}{2} \cdot 8 \cdot 6 \sin 30^\circ$$

$$A = 12$$

Heron's Formula - use if SSS triangle

$$A = \sqrt{s(s-a)(s-b)(s-c)}$$

$$s = \frac{1}{2}(a+b+c)$$

ex: $a=4$, $b=5$, $c=7$

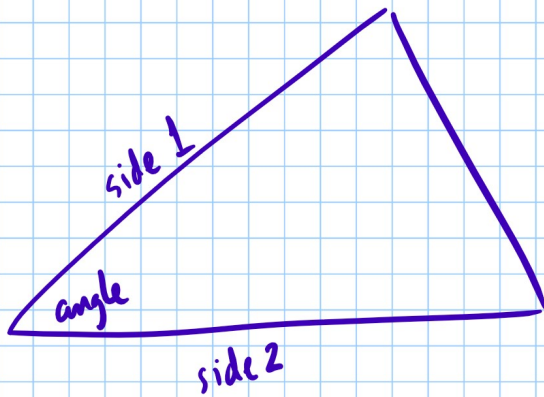
$$s = \frac{1}{2}(4+5+7) = \frac{1}{2} \cdot 16 = 8$$

$$A = \sqrt{8(8-4)(8-5)(8-7)}$$

$$A = \sqrt{8 \cdot 4 \cdot 3 \cdot 1}$$

$$A = \sqrt{96} \approx 9.8$$

p561 3, 7, 11, 23, 27



$$A = \frac{1}{2}(\text{side 1})(\text{side 2})(\text{angle})$$

$$27) 100 \text{ ft} \times 50 \text{ ft} \times 75 \text{ ft}$$

$$s = \frac{1}{2}(100 + 50 + 75) = 112.5$$

$$A = \sqrt{112.5(12.5)(62.5)(37.5)}$$

$$A = 1815.46 \text{ ft}^2 \Rightarrow \begin{array}{r} 1816 \\ \times 3 \\ \hline 5448 \end{array}$$

