Review WS Ch. 7

16. $y = \overline{\quad\quad}$

$m\angle Y = 36$

$m\angle X = 49$

$x = 12$

$$\frac{\sin X}{x} = \frac{\sin Y}{y}$$

$$\frac{\sin 49}{12} = \frac{\sin 36}{y}$$

$$\frac{12 \sin 36}{\sin 49} = \frac{y \sin 49}{\sin 49}$$

$$9.35 = y \quad (B)$$

17. $b = 200$

$m\angle A = 72$

$m\angle B = 37$

$c = \_\_\_\_$

$\angle C = 71^\circ$

$$\frac{\sin B}{b} = \frac{\sin C}{c}$$

$$\frac{\sin 37}{200} = \frac{\sin 71}{c}$$

$$\frac{200 \sin 71}{\sin 37} = \frac{c \sin 37}{\sin 37}$$

$$314.2 = c \quad (D)$$

18. $a = 12$
$b = 8$
$m\angle A = 40$
$m\angle B =$ _____

$$\frac{\sin A}{a} = \frac{\sin B}{b}$$

$$\frac{\sin 40}{12} = \frac{\sin B}{8}$$

$$\frac{12 \sin B}{12} = \frac{8 \sin 40)}{12} \quad * 2nd \ sin$$

$$B = 25.4^\circ \quad (A)$$

19. $m\angle B = 50$

$c = 8$

$a = 12$

$b =$ _____

$$b^2 = a^2 + c^2 - 2ac\cos B$$

$$b^2 = 12^2 + 8^2 - 2(12)(8)\cos 50$$

$$\sqrt{b^2} = \sqrt{208 - 192\cos 50}$$

$$b = 9.2 \quad (B)$$

20. d = 20
e = 25
f = 30
m∠F = ____

$f^2 = d^2 + e^2 - 2de\cos F$

$30^2 = 20^2 + 25^2 - 2(20)(25)\cos F$

$900 = 1025 - 1000\cos F$

$-1025 \quad -1025$

$\frac{-125}{-1000} = \frac{-1000\cos F}{-1000}$ * 2nd cos

$82.8 = F$ (A)

Bonus: $a = 50$

$b = 48$

$c = 40$

$m\angle A =$ _____

$a^2 = b^2 + c^2 - 2bc\cos A$

$50^2 = 48^2 + 40^2 - 2(48)(40)\cos A$

$2500 = 3904 - 3840\cos A$

$-3904 \quad -3904$

$-1404 = -3840\cos A$ $\quad *2^{nd}$ cos

$\frac{-1404}{-3840} = \frac{-3840\cos A}{-3840}$

$68.6^\circ = A$