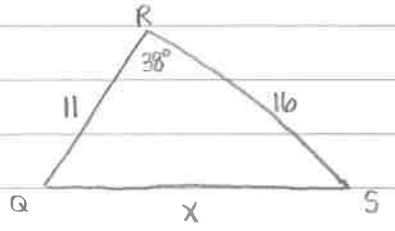
Pg. 530; # 7-13 odd, 19-22 all

GEOMETRY (SECTION 8.6)

7.

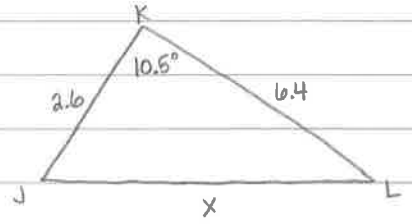


$x^2 = 11^2 + 16^2 - 2(11)(16)\cos(38)$

$x^2 = 99.62\ldots$

$x \approx 9.98$

9.

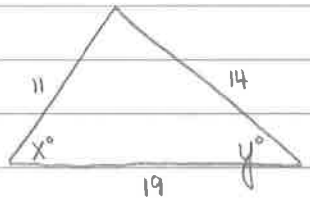


$x^2 = (2.6)^2 + (6.4)^2 - 2(2.6)(6.4)\cos(10.5)$

$x^2 = 14.99\ldots$

$x \approx 3.87$

11.



$14^2 = 11^2 + 19^2 - 2(11)(19)\cos(x)$

$-286 = -2(11)(19)\cos(x)$

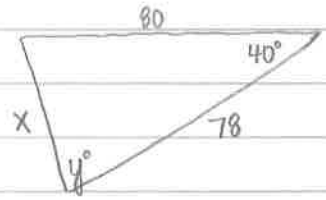
$\cos(x) = .684\ldots$ $\quad x = 46.82°$

$$\frac{\sin(46.82)}{14} = \frac{\sin(y)}{11}$$

$11 \cdot \sin(46.82) = 14\sin(y)$

$\sin(y) = .573\ldots$ $\quad y = 34.96°$

13.



$x^2 = 78^2 + 80^2 - 2(78)(80)\cos(40)$

$x^2 = 2923.76\ldots$

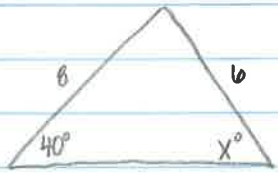
$x = 54.07$

$$\frac{\sin(y)}{80} = \frac{\sin(40)}{54.07}$$

$80\sin(40) = 54.07\sin(y)$

$\sin(y) = .951\ldots$

$y = 72°$

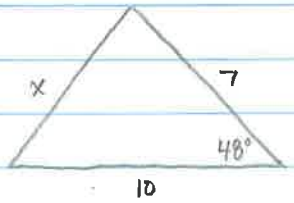
19. 

Law of Sines: $\frac{\sin(40)}{6} = \frac{\sin(x)}{8}$

$6\sin(x) = 8\sin(40)$

$\sin(x) = .857\ldots$

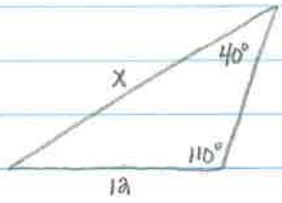
$x = 58.99°$

20. 

Law of Cosines: $x^2 = 7^2 + 10^2 - 2(7)(10)\cos(48)$

$x^2 = 55.32\ldots$

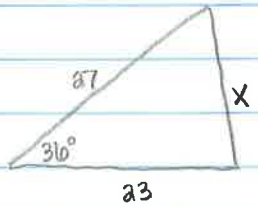
$x = 7.44$

21. 

Law of Sines: $\frac{\sin(40)}{12} = \frac{\sin(110)}{x}$

$x\sin(40) = 12\sin(110)$

$x = 17.54$

22. 

Law of Cosines: $x^2 = 23^2 + 27^2 - 2(23)(27)\cos(36)$

$x^2 = 253.20\ldots$

$x = 15.91$