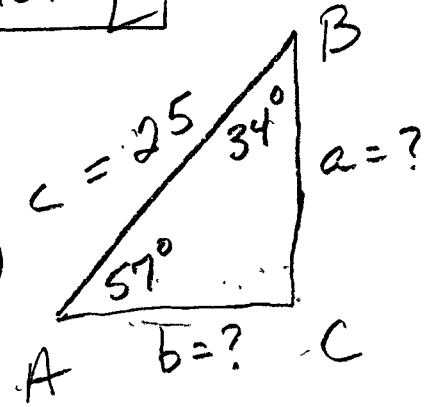
Geometry Fri. 5-3-13 CLASS NOTES

(48) WORK-SHEET PRACTICE



$a = 21.0$ $A = 57°$

$b = 14.0$ $B = 34°$

$c = 25$ $C = 89°$

ASA ⇒ LOS

$$C = 180 - (57+34) = 180 - 91 = \underline{89°}$$

$$\frac{\sin 89°}{25} = \frac{\sin 34}{b}$$

$$\frac{b \sin 89°}{\sin 89°} = \frac{25 \sin 34°}{\sin 89°} = \frac{25(.5592)}{(.9998)}$$

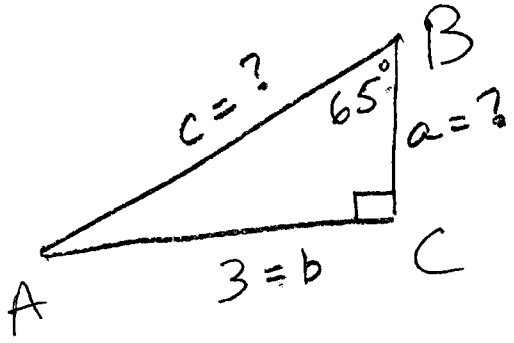
$$b = \underline{13.983}$$

$$\frac{\sin 89}{25} = \frac{\sin 57}{a}$$

$$a \sin 89° = 25 \sin 57$$

$$a = \frac{25(.8387)}{(.9998)} = \underline{20.972}$$

(8)



$a = 1.4$ | $A = 25°$

$b = 3$ | $B = 65°$

$c = 3.3$ | $C = 90°$

$$\tan 65^\circ = \frac{3}{a}$$

$$\frac{a \tan 65^\circ}{\tan 65} = \frac{3}{\tan 65}$$

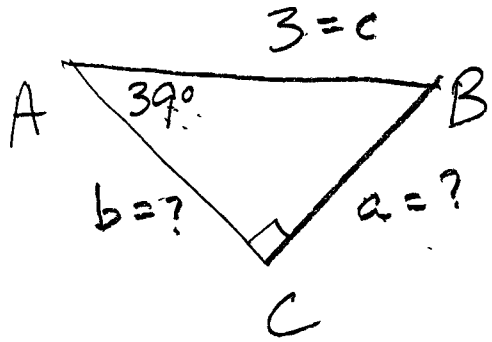
$$a = \frac{3}{2.1445} = \underline{1.398}$$

$$A = 90 - 65 = 25^\circ$$

$$\sin 65^\circ = \frac{3}{c}$$

$$c = \frac{3}{(.9063)} = \underline{3.3102}$$

(40)



$a = 1.9$	$A = 39°$
$b = 2.3$	$B = 51°$
$c = 3$	$C = 90°$

$$B = 90 - 39 = 51°$$

$$\sin 39° = \frac{a}{3}$$

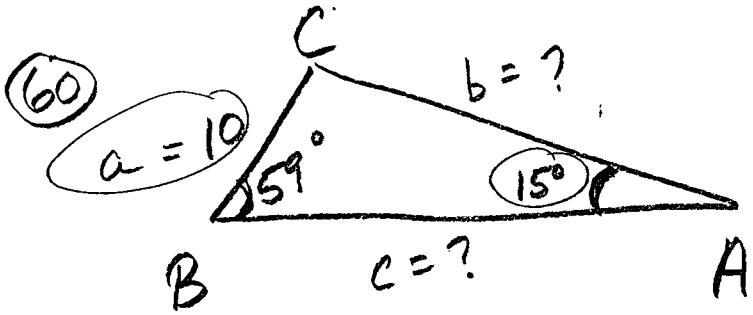
$$3(.6293) = a$$

$$1.888 = a$$

$$\cos 39° = \frac{b}{3}$$

$$3(.7771) = b$$

$$2.3313 = b$$



a = 10 A = 15°

b = 33.1 B = 59°

c = 37.1 C = 106°

AAS = LOS

$$\frac{\sin 15^\circ}{10} = \frac{\sin 59^\circ}{b}$$

$$b = \frac{10 \sin 59^\circ}{\sin 15^\circ}$$

$$b = \frac{10(.8572)}{(.2588)} = 33.122$$

$C = 180 - (74)$

$C = 106^\circ$

---

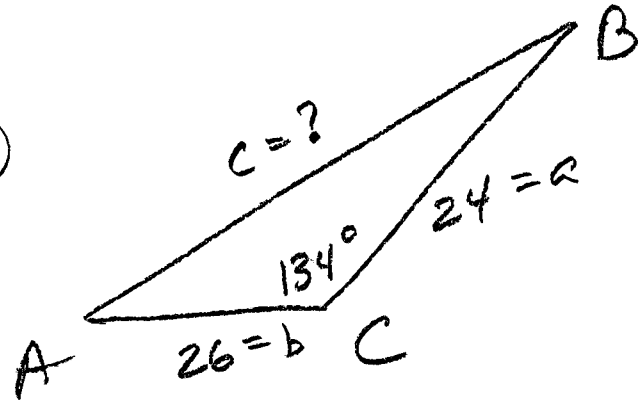
ref ∠ for 106°

$$\frac{\sin 15^\circ}{10} = \frac{\sin 74}{c}$$

$$c = \frac{10 \sin 74}{\sin 15} = \frac{10(.9613)}{.2588}$$

$$c = 37.145$$

(94)



$a = 24$ $\boxed{A = 22°}$

$b = 26$ $\boxed{B = 24°}$

$\boxed{c = 46.0}$ $C = 134°$

SAS ⇒ LOC

SAS = LOC

* $\cos 134° = -\cos 46°$

$c^2 = 26^2 + 24^2 - 2(26)(24)(-\cos 46°)$ ↳ .6947

$c^2 = 676 + 576 + 866.9856$

$c^2 = 1252 + 866.9856$

$c^2 = 2118.9856$ $\therefore c = \underline{46.032}$

$\frac{\sin 46}{46.032} = \frac{\sin A}{24}$

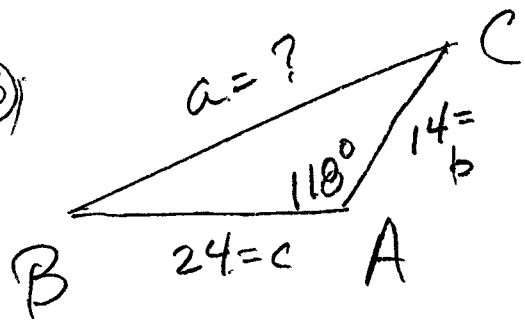
$\frac{24(.7193)}{46.032} = \sin A$

$.3750 = \sin A$

$\sin^{-1}(.3750) = A \approx \underline{22°}$

$B = 180 - (134 + 22) = \underline{24°}$

(106)



$a = 33.0$ $A = 118°$

$b = 14$ $B = 22°$

$c = 24$ $C = 40°$

SAS = LOC * 118°, ref ∠ cos(−) 62°

$a^2 = 24^2 + 14^2 - 2(24)(14)(-\cos 62°)$

$a^2 = 576 + 196 + 672(.4695)$

$a^2 = 772 + 315.504$ $\therefore a^2 = \sqrt{1087.504}$

$a = \underline{32.977}$

$$\frac{\sin 62}{32.977} = \frac{\sin B}{14}$$

$$\frac{14(.8829)}{32.977} = \sin B$$

$$.3748 = \sin B$$

$$\sin^{-1}(.3748) = B = \underline{22.01}$$

$C = 180 - (118 + 22)$

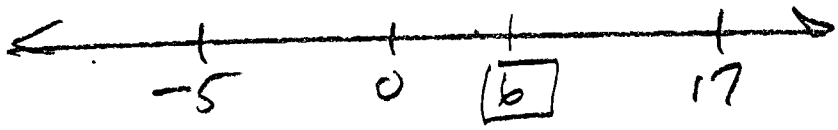
$C = 180 - 140 = \underline{40}°$

(12) $(3x+1)^2$

$9x^2+6x+1$

---

(15) Mid-point of $-5, 17$



---

(18) $(2^x)(4) = 8^3$

$2^{x+2} = 2^9$

$2^x \cdot 2^2 = 2^9$

$2+x = 9$

$x = 7$

(A) 2
(B) 3
(C) 4
(D) 4.5
(E) 7

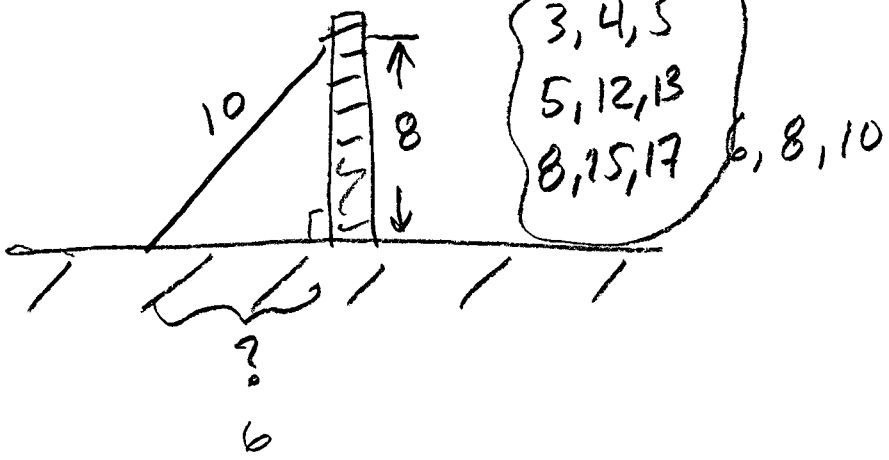
ACT Practice

(2) $g(g+1)^2 \qquad g = 2$

18

---

(4)



3, 4, 5
5, 12, 13
8, 15, 17
6, 8, 10

---

(7) $2(x+4) = 5x - 7$

$2x + 8 = 5x - 7$

$15 = 3x \qquad x = 5$

---

(9) LCD $\frac{a}{2}, \frac{b}{3}, \frac{c}{9}, \frac{d}{15}$