

EX. 12 A

#1 a) $A = \frac{1}{2} (9)(10)(\sin 40^\circ) = 28.9 \text{ cm}^2$

b) $A = \frac{1}{2} (31)(25)(\sin 82^\circ) = 384 \text{ km}^2$

c) $A = \frac{1}{2} (10.2)(6.4)(\sin 125^\circ) = 26.7 \text{ cm}^2$

#2 $150 = \frac{1}{2} (17)(x) \sin 68^\circ$

$19.0 = x$

EX 12 D.1

#1 a) $\frac{\sin 48^\circ}{x} = \frac{\sin 37^\circ}{23}$

$\frac{23 \sin 48^\circ}{\sin 37^\circ} = \frac{x \sin 37^\circ}{\sin 37^\circ}$

$28.4 = x$

b) $\frac{\sin 48^\circ}{11} = \frac{\sin 115^\circ}{x}$

$\frac{x \sin 48^\circ}{\sin 48^\circ} = \frac{11 \sin 115^\circ}{\sin 48^\circ}$

$x = 13.4$

c) $\frac{\sin 80^\circ}{4.8} = \frac{\sin 51^\circ}{x}$

$\frac{x \sin 80^\circ}{\sin 80^\circ} = \frac{4.8 \sin 51^\circ}{\sin 80^\circ}$

$x = 3.79$

#2 a) $\frac{\sin 63^\circ}{a} = \frac{\sin 49^\circ}{18}$

$\frac{a \cdot \sin 49^\circ}{\sin 49^\circ} = \frac{18 \sin 63^\circ}{\sin 49^\circ}$

$a = 21.3$

b) $\frac{\sin 73^\circ}{b} = \frac{\sin 25^\circ}{34}$

$\frac{b \cdot \sin 25^\circ}{\sin 25^\circ} = \frac{34 \sin 73^\circ}{\sin 25^\circ}$

$b = 76.9$

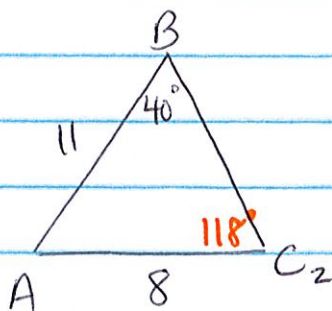
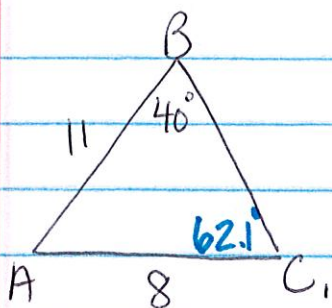
$$c) \frac{\sin 111^\circ}{6.4} = \frac{\sin 48^\circ}{c}$$

$$c \cdot \frac{\sin 111^\circ}{\sin 111^\circ} = \frac{6.4 \sin 48^\circ}{\sin 111^\circ}$$

$$c = 5.09$$

EX. 12 D. 2

#1



$$\frac{\sin 40^\circ}{8} = \frac{\sin C}{11}$$

$$8 \sin C = 11 \sin 40^\circ$$

$$\sin C = \frac{11 \sin 40^\circ}{8}$$

$$C_1 = 62.1^\circ$$

$$C_2 = 180 - 62.1 = 117.9^\circ = 118^\circ$$