Review:

1. Graph $y = \frac{3}{2}\cos\frac{\pi}{3}x - 1$

amplitude: 3/2
period: $2\pi \cdot \frac{3}{\pi} = 6$
horizontal shift: none
vertical shift: down 1

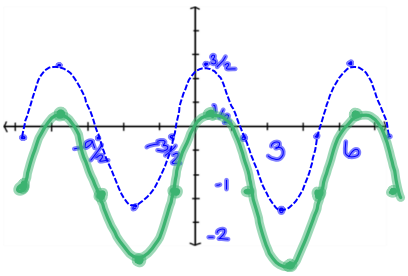
$y = a \cdot f(bx+c) + d$

amp: $|a|$

period: $\frac{\pi \text{ or } 2\pi}{|b|}$

H.shift: $-\frac{c}{b}$

V.shift: d



2. Find $\cos 2\theta$ given that $\sin\theta = -\frac{12}{13}$ and $\cos\theta = -\frac{5}{13}$

$\cos 2\theta = \cos^2\theta - \sin^2\theta$

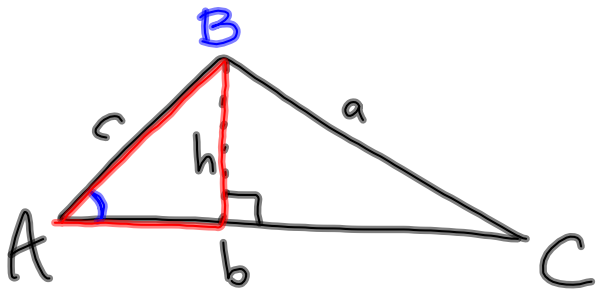
$= (\cos\theta)^2 - (\sin\theta)^2$

$= \left(\frac{-5}{13}\right)^2 - \left(\frac{-12}{13}\right)^2$

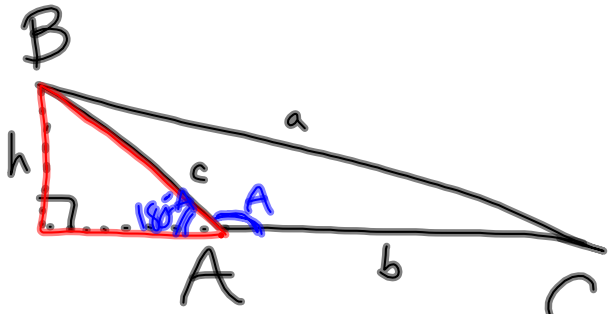
$= \frac{25}{169} - \frac{144}{169}$

$= \boxed{\frac{-119}{169}}$

7.1/7.2 Area of a Triangle



Acute



Obtuse

area of a triangle $= \frac{1}{2} \cdot \text{base} \cdot \text{height}$

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

$h = c \cdot \sin A$

$$\text{Area} = \frac{1}{2}bc \cdot \sin A$$

Area of a $\triangle$:

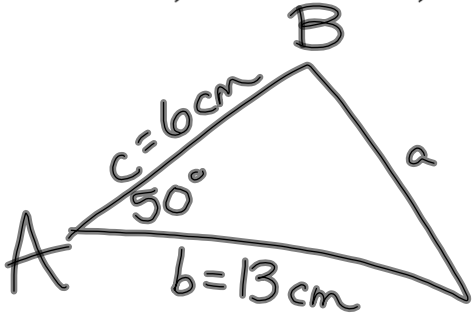
$$= \frac{1}{2}bc \cdot \sin A$$

$$= \frac{1}{2}ac \cdot \sin B$$

$$= \frac{1}{2}ab \cdot \sin C$$

Find the area of the triangle.

$A = 50°, b = 13\ cm, c = 6\ cm$

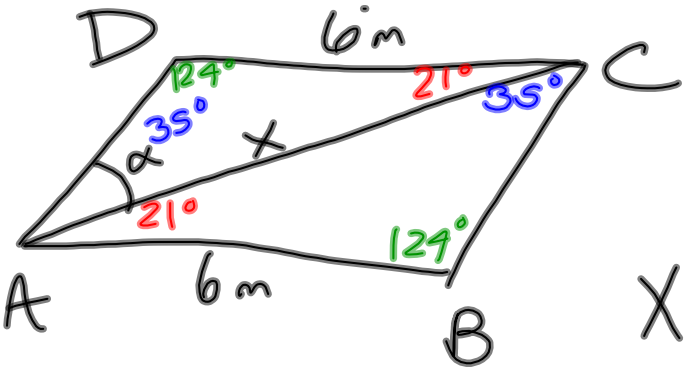


area $= K = \frac{1}{2}bc \cdot \sin A$

$= \frac{1}{2} \cdot 13 \cdot 6 \cdot \sin 50°$

$= \boxed{29.9\ cm^2}$

7.1 #28



$$\frac{6m}{\sin 35^\circ} = \frac{X}{\sin 124^\circ}$$

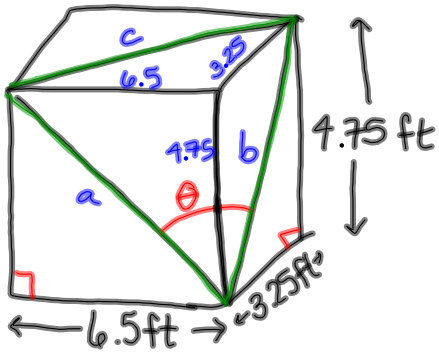
$$X = \frac{6\sin 124^\circ}{\sin 35^\circ}\ m$$

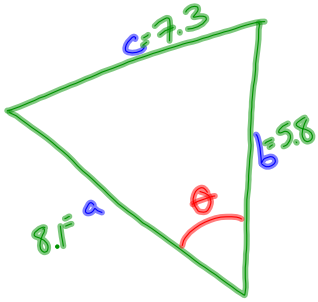
$$= \boxed{8.7\ m}$$

$\angle BAD = 56^\circ$

$\alpha = 35^\circ$

7.2 #41





$a^2 = 6.5^2 + 4.75^2$

$a = \sqrt{6.5^2 + 4.75^2}$

$= 8.1$

$b^2 = 3.25^2 + 4.75^2$

$b = \sqrt{3.25^2 + 4.75^2}$

$= 5.8$

$c^2 = 6.5^2 + 3.25^2$

$c = \sqrt{6.5^2 + 3.25^2}$

$= 7.3$

$c^2 = a^2 + b^2 - 2ab\cos\theta$

$2ab\cos\theta = a^2 + b^2 - c^2$

$\cos\theta = \frac{a^2 + b^2 - c^2}{2ab}$

$\theta = \cos^{-1}\left(\frac{a^2 + b^2 - c^2}{2ab}\right)$

$= \cos^{-1}\left(\frac{8.1^2 + 5.8^2 - 7.3^2}{2(8.1)(5.8)}\right)$

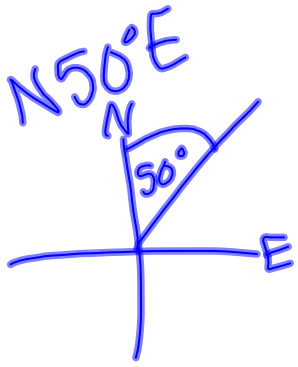
$= 60.7^\circ$

Homework to turn in Friday:

7.1 Textbook #1,2,4,6,7

7.1 Handout #13-21odd

7.2 Handout #9-19 odd



7.1 Handout 29,30,33,34,35

7.2 Handout #25-29odd; 38,43,46,47,48