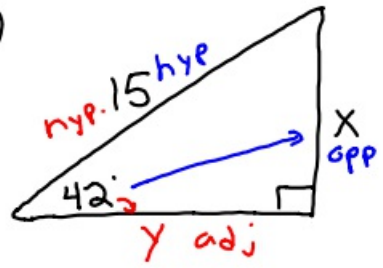
2-6-18 1st Trig

①



SOH
CAH
TOA

$\frac{\sin 42^\circ}{1} = \frac{X}{15}$

$X = 15 \cdot \sin 42^\circ$

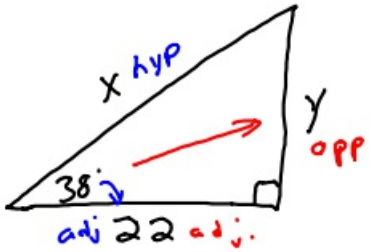
$X \approx 10.0$

$\frac{\cos 42^\circ}{1} = \frac{y}{15}$

$y = 15 \cdot \cos 42^\circ$

$y \approx 11.1$

②



SOH
CAH
TOA

$\frac{\cos 38^\circ}{1} = \frac{22}{x}$

$\frac{x \cdot \cos 38^\circ}{\cos 38^\circ} = \frac{22}{\cos 38^\circ}$

$x \approx 27.9$

$\frac{\tan 38^\circ}{1} = \frac{y}{22}$

$y = 22 \cdot \tan 38^\circ$

$y \approx 17.2$

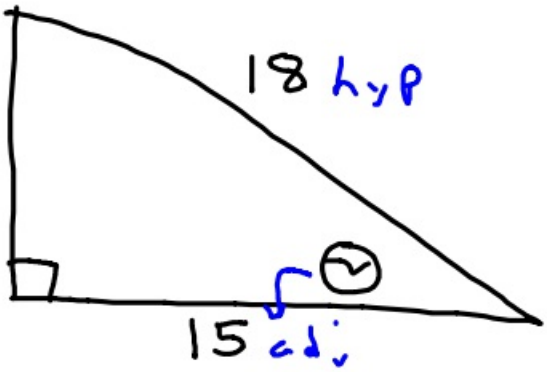
③

SOH
CAH
TOA

$\sin^{-1} \sin\theta = \sin^{-1} \frac{4}{11}$

$\theta \approx 21.3^\circ$

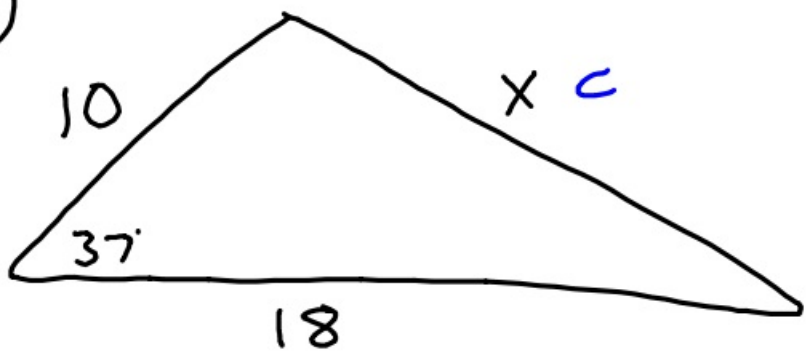
(4)



$\cos^{-1}$ $\cos\theta = \cos^{-1}\frac{15}{18}$

$\theta \approx 33.6^\circ$

(5)

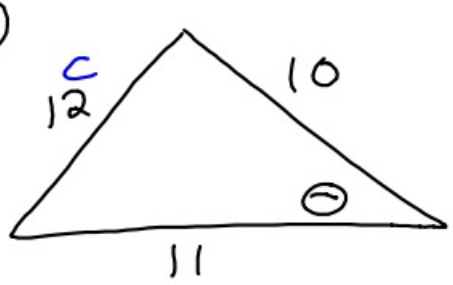


$c^2 = a^2 + b^2 - 2ab\cos\theta$

$X^2 = 18^2 + 10^2 - 2 \cdot 18 \cdot 10 \cdot \cos 37^\circ$

$X \approx 11.7$

⑥



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

$12^2 = 11^2 + 10^2 - 2 \cdot 11 \cdot 10 \cdot \cos\theta$

$144 = 121 + 100 - 220 \cdot \cos\theta$

$144 = 221 - 220 \cdot \cos\theta$

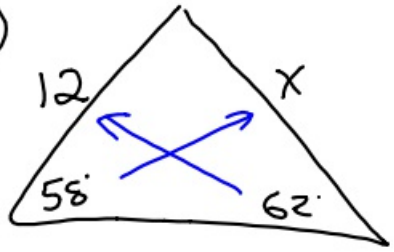
$-221 \quad -221$

$\frac{-77}{-220} = \frac{-220 \cdot \cos\theta}{-220}$

$\cos^{-1}\frac{77}{220} = \cos^{-1}\cos\theta$

$\theta \approx 69.5°$

⑦

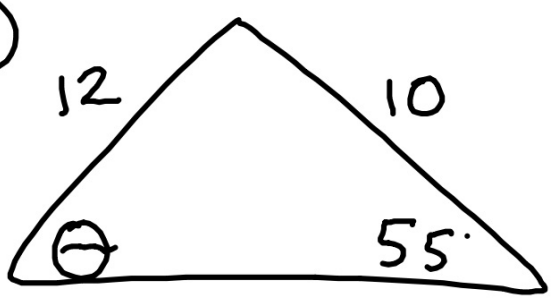


$\frac{\sin 62°}{12} = \frac{\sin 58°}{X}$

$\frac{X \cdot \sin 62°}{\sin 62°} = \frac{12 \cdot \sin 58°}{\sin 62°}$

$X \approx 11.5$

8



$$\frac{\sin\theta}{10} = \frac{\sin 55^\circ}{12}$$

$$\frac{12 \cdot \sin\theta}{12} = \frac{10 \cdot \sin 55^\circ}{12}$$

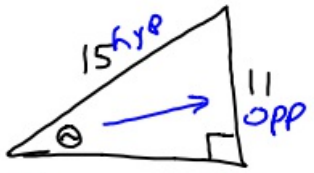
$$\sin^{-1}\sin\theta \approx \sin^{-1}.68\ldots$$

$$\theta \approx 43.0^\circ$$

2-6-18 3rd Trig

Sorry ... we lost 1st half of notes.

③

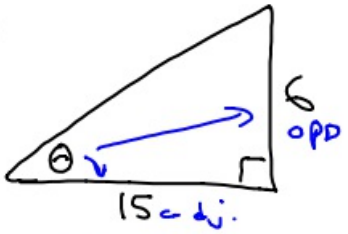


SOH
CAH
TOA

$\sin^{-1}$ $\sin\theta = \frac{11}{15}$ $\sin^{-1}$

$\theta \approx 47.2°$

④

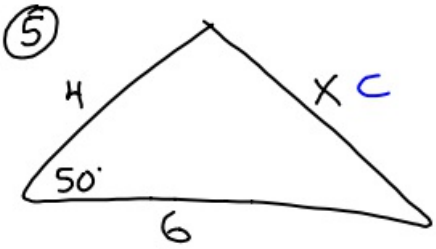


TOA

$\tan^{-1}$ $\tan\theta = \frac{6}{15}$ $\tan^{-1}$

$\theta \approx 21.8°$

⑤

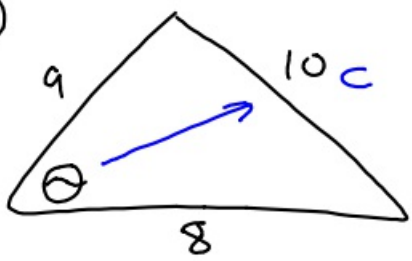


$c^2 = a^2 + b^2 - 2ab\cdot\cos\theta$

$x^2 = 4^2 + 6^2 - 2\cdot4\cdot6\cdot\cos 50°$

$x \approx 4.6$

(6)



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

$10^2 = 8^2 + 9^2 - 2\cdot 8\cdot 9\cdot\cos\theta$

$100 = 64 + 81 - 144\cdot\cos\theta$

$100 = 145 - 144\cdot\cos\theta$

$-145 \quad -145$

$\frac{-45}{-144} = \frac{-144\cdot\cos\theta}{-144}$

$\cos^{-1}\frac{45}{144} = \cos^{-1}\cos\theta$

$\theta \approx 71.7°$

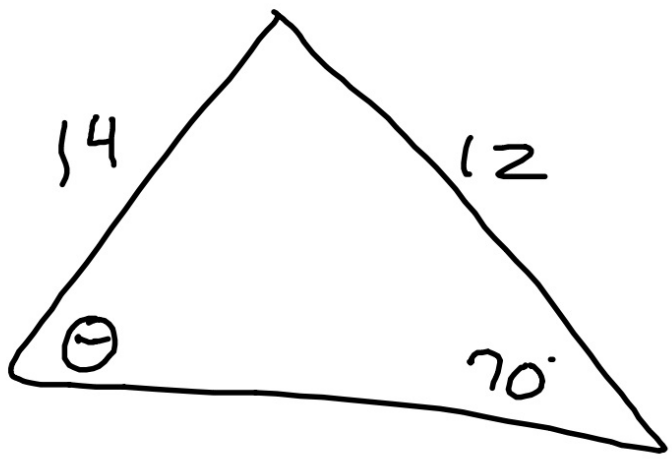
(7)

$\frac{\sin 60°}{14} = \frac{\sin 48°}{X}$

$\frac{X\cdot\sin 60°}{\sin 60°} = \frac{14\cdot\sin 48°}{\sin 60°}$

$X \approx 12.0$

(8)



$$\frac{\sin 70}{14} = \frac{\sin \theta}{12}$$

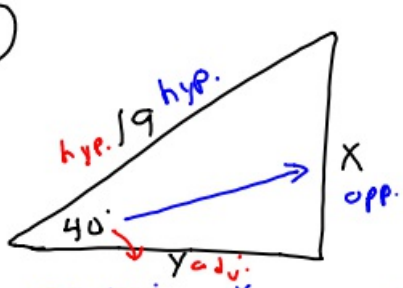
$$\frac{14 \cdot \sin \theta}{14} = \frac{12 \cdot \sin 70}{14}$$

$$\sin^{-1} \sin \theta \approx \sin^{-1} .805\ldots$$

$$\theta \approx 53.7^\circ$$

2-6-18 4th Trig

(1)



SOH
CAH
TOA

$\frac{\sin 40^\circ}{1} = \frac{X}{19}$

$X = 19 \cdot \sin 40^\circ$

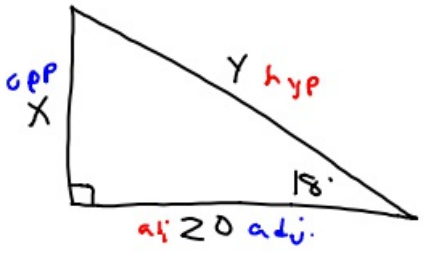
$X \approx 12.2$

$\frac{\cos 40}{1} = \frac{y}{19}$

$y = 19 \cdot \cos 40^\circ$

$y \approx 14.6$

(2)



SOH
CAH
TOA

$\frac{\tan 18^\circ}{1} = \frac{X}{20}$

$X = 20 \cdot \tan 18^\circ$

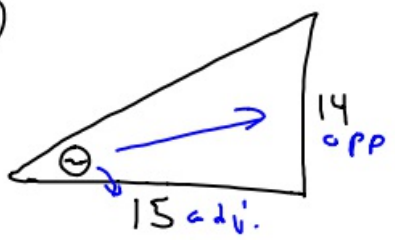
$X \approx 6.5$

$\frac{\cos 18}{1} = \frac{20}{y}$

$\frac{y \cdot \cos 18}{\cos 18} = \frac{20}{\cos 18}$

$y \approx 21.0$

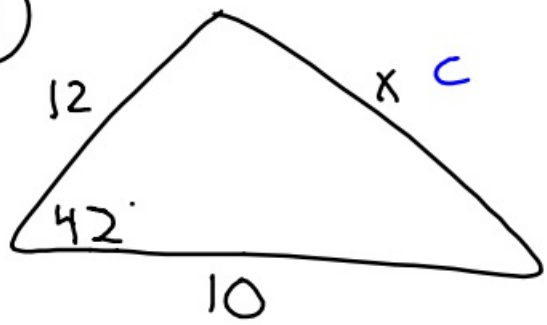
(3)



$\tan^{-1} \tan \theta = \tan^{-1} \frac{14}{15}$

$\theta = 43.0^\circ$

(4)

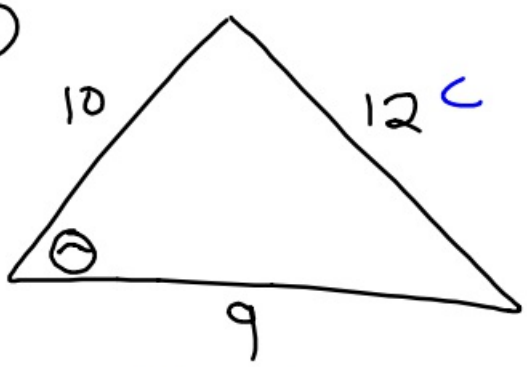


$c^2 = a^2 + b^2 - 2ab\cos\theta$

$X^2 = 12^2 + 10^2 - 2 \cdot 12 \cdot 10 \cdot \cos 42°$

$X \approx 8.1$

(5)



$12^2 = 9^2 + 10^2 - 2 \cdot 9 \cdot 10 \cdot \cos\theta$

$144 = 81 + 100 - 180 \cdot \cos\theta$

$144 = 181 - 180 \cdot \cos\theta$

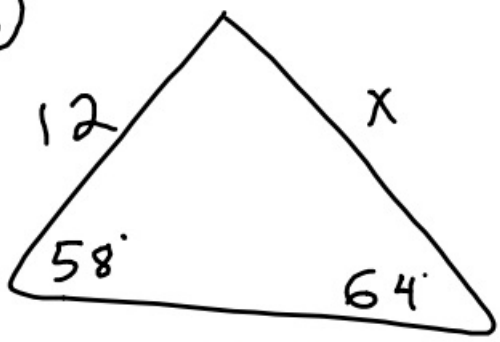
$-181 \quad -181$

$\frac{-37}{-180} = \frac{-180 \cdot \cos\theta}{-180}$

$\cos^{-1}\frac{37}{180} = \cos^{-1}\cos\theta$

$78.1° \approx \theta$

(6)

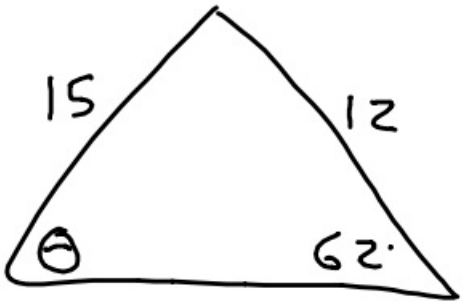


$$\frac{\sin 58^\circ}{X} = \frac{\sin 64^\circ}{12}$$

$$\frac{X \cdot \sin 64^\circ}{\sin 64^\circ} = \frac{12 \cdot \sin 58^\circ}{\sin 64^\circ}$$

$$X \approx 11.3$$

(7)



$$\frac{\sin\theta}{12} = \frac{\sin 62^\circ}{15}$$

$$\frac{15 \cdot \sin\theta}{15} = \frac{12 \cdot \sin 62^\circ}{15}$$

$$\sin^{-1}\sin\theta \approx \sin^{-1}.706\ldots$$

$$\theta \approx 44.9^\circ$$