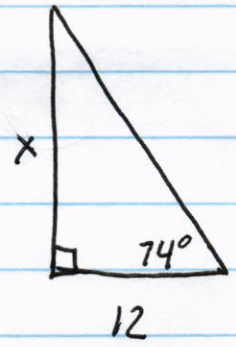
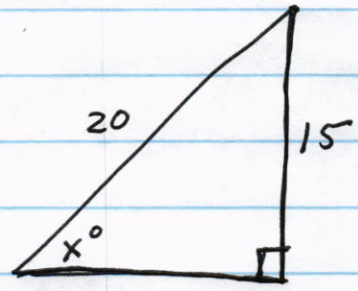
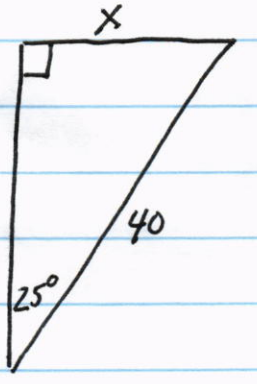
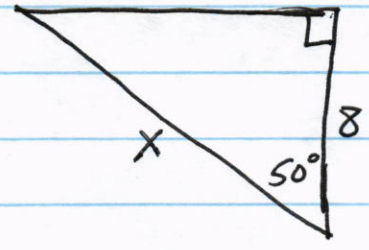
Station 1

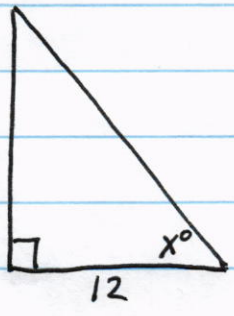
Find x:

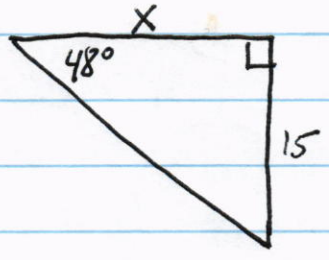
① 

② 

③ 

④ 

⑤ 

⑥ 

Station 2

(7) The angle of elevation to the top of a 30 ft flagpole is 20° from where you stand. How tall is the flagpole?

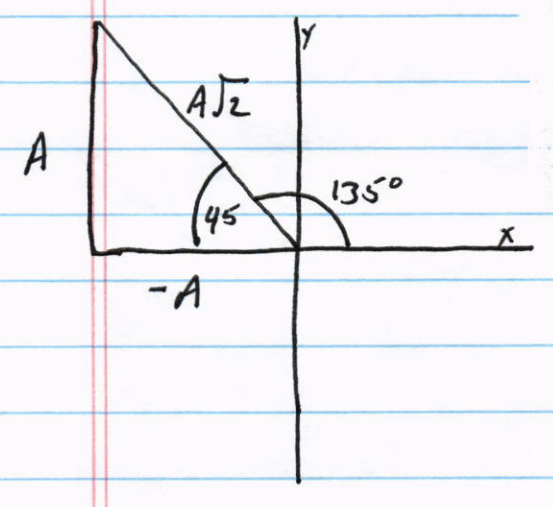
(8) A giant inflatable cow is on the roof of "McDonald's" 60 ft away. The angle of elevation to the roof is 18°, the angle of elevation to the top of the cow is 30°. How tall is the cow?

Station 3

(9) What is the reference angle for 300°?

(10) What is the reference angle for 150°

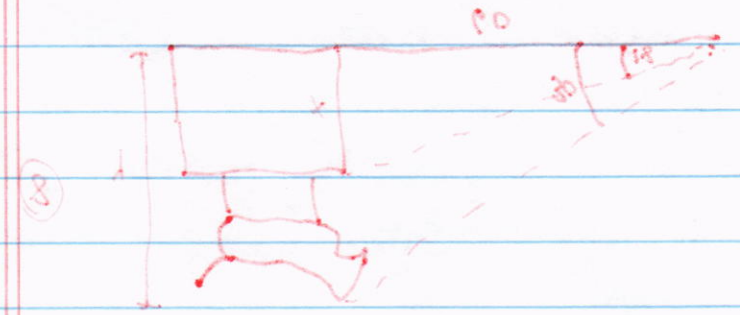
135°:

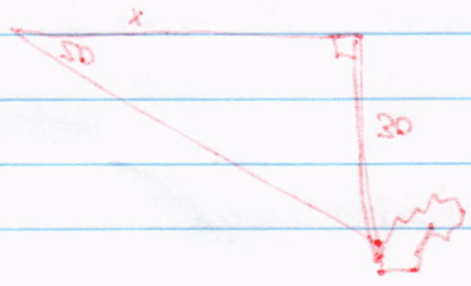


(11) sin 135° =

(12) cos 135° =

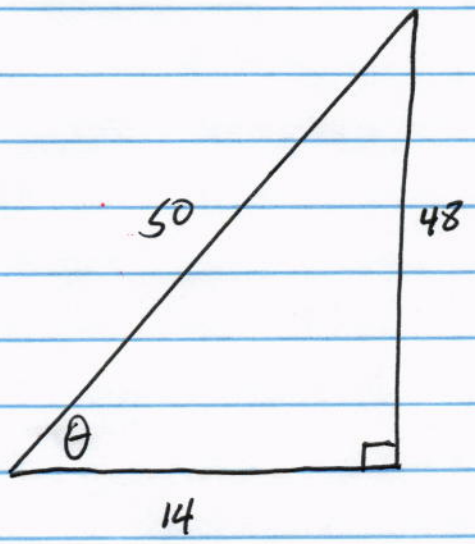
(13) tan 135° =





Station 4

Give the exact values



(14) $\sin\theta =$

(15) $\cos\theta =$

(16) $\tan\theta =$

(17) $\csc\theta =$

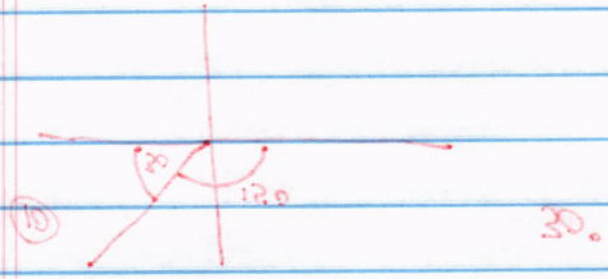
(18) $\sec\theta =$

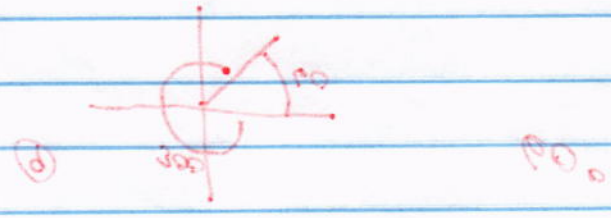
(19) $\cot\theta =$

(13) $\frac{-4}{4} = -1$

(12) $\frac{-\frac{42}{5}}{4} = \frac{-21}{10} = -\frac{21}{10}$

(11) $\frac{\frac{42}{5}}{4} = \frac{21}{10} = \frac{21}{20}$

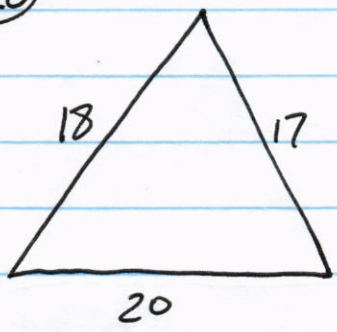




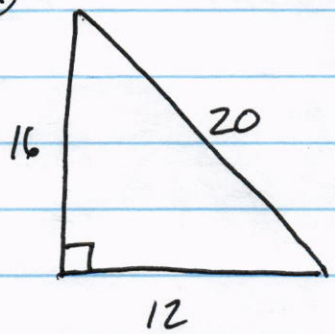
Station 5

Find the area of each triangle:

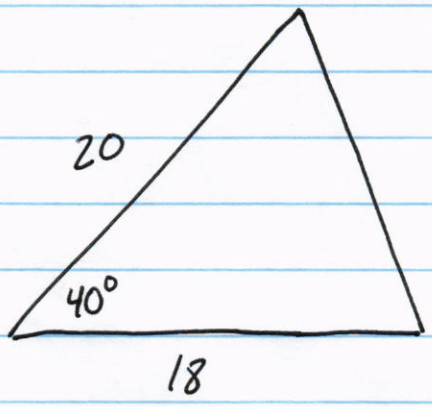
(20)



(21)



(22)



1 $\tan 74 = \frac{x}{12}$ $x = 41.8$

2 $\sin x = \frac{15}{20}$ $x = 48.6$

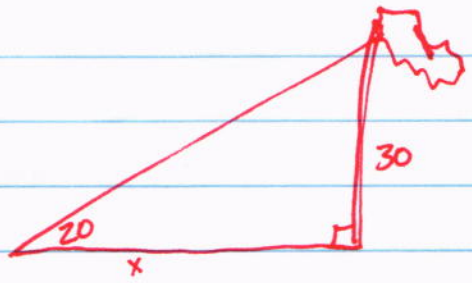
3 $\sin 25 = \frac{x}{40}$ $x = 16.9$

4 $\cos 50 = \frac{8}{x}$ $x = 12.4$

5 $\tan x = \frac{20}{12}$ $x = 59$

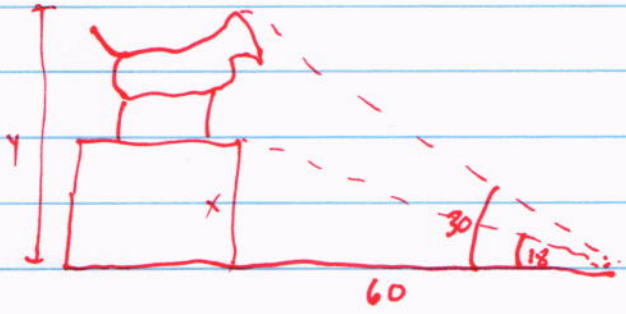
6 $\tan 48 = \frac{15}{x}$ $x = 13.5$

⑦



$\tan 20 = \frac{30}{x}$ $x = 82.4$

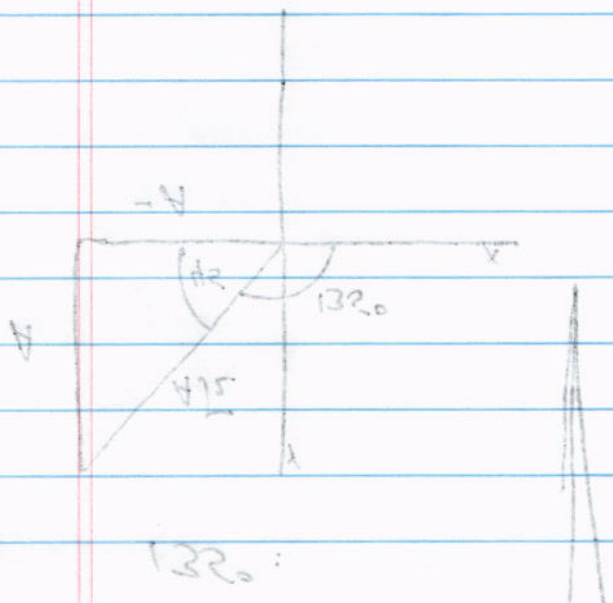
⑧



McD's: $\tan 18 = \frac{x}{60}$ $x = 19.5$

cow: $\tan 30 = \frac{y}{60}$ $y = 34.6$

cow: $y - x = 15.1$



⑬ tan 132.0 =

⑮ (sec) 132.0 =

⑪ csc 132.0 =

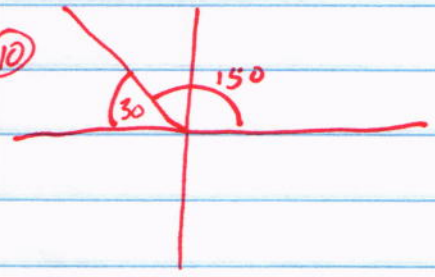
⑩ Find the reference angle for 120.

⑫ Find the reference angle for 300.

Protractor

(9) 

60°

(10) 

30°

(11) $\frac{A}{A\sqrt{2}} = \frac{1}{\sqrt{2}} = \frac{\sqrt{2}}{2}$

(12) $-\frac{A}{A\sqrt{2}} = -\frac{1}{\sqrt{2}} = -\frac{\sqrt{2}}{2}$

(13) $\frac{A}{-A} = -1$

(14) $\sin = \frac{O}{H} = \frac{48}{50} = \frac{24}{25}$

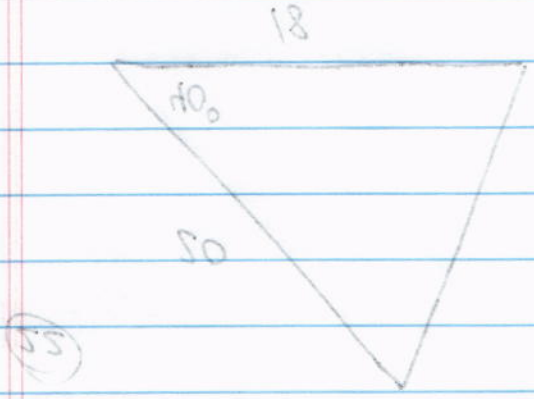
(15) $\cos = \frac{A}{H} = \frac{14}{50} = \frac{7}{25}$

(16) $\tan = \frac{O}{A} = \frac{48}{14} = \frac{24}{7}$

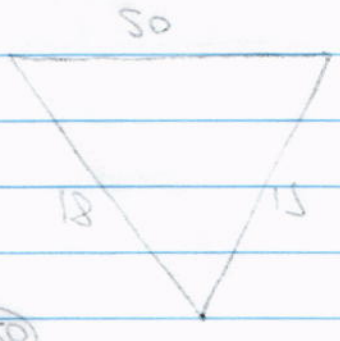
(17) $\csc = \frac{H}{O} = \frac{50}{48} = \frac{25}{24}$

(18) $\sec = \frac{H}{A} = \frac{50}{14} = \frac{25}{7}$

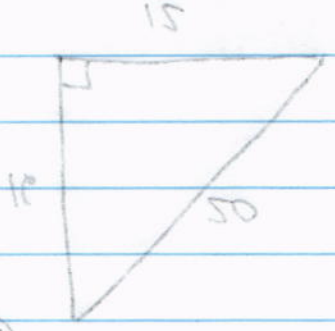
(19) $\cot = \frac{A}{O} = \frac{14}{48} = \frac{7}{24}$



(53)



(50)



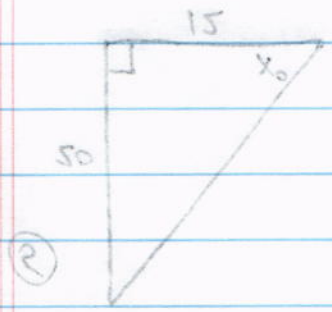
(51)

(20) perimeter: 55
semiperimeter: 27.5

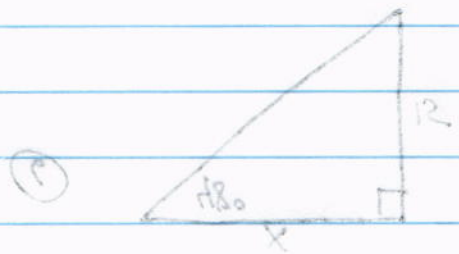
$$\sqrt{(27.5)(9.5)(10.5)(7.5)} = 143.4$$

(21) $\frac{1}{2} \cdot b \cdot h = \frac{1}{2} \cdot 16 \cdot 12 = 96$

(22) $\frac{1}{2} \cdot a \cdot b \cdot \sin C = \frac{1}{2} \cdot 20 \cdot 18 \cdot \sin 40 = 115.7$



(2)

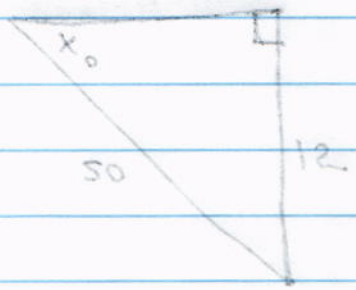


(1)

(3)

(4)

(11)



(5)