

Solve each Triangle:

1. $\triangle ABC$ $\triangle ABC$ (2nd Possible \triangle)
 $x = 48.21^\circ$ $a = 4\text{cm}$ $A = 131.79^\circ$ $a = 4\text{cm}$
 $B = 34^\circ$ $b = 3\text{cm}$ $B = 34^\circ$ $b = 3\text{cm}$
 $C = 97.79$ $c = 5.3\text{cm}$ $C = 14.21$ $c = 1.3$

$$\frac{\sin 34}{3} = \frac{\sin A}{4}$$

$$\frac{\sin 97.79}{c} = \frac{\sin 34}{3}$$

2. $\triangle XYZ$ $\triangle XYZ$ (2nd Possible \triangle)
 $X = 13^\circ$ $x = 12\text{ft}$ $X = 13^\circ$ $x = 12\text{ft}$
 $Y = 5.38^\circ$ $y = 5\text{ft}$ $Y = 174.62^\circ$ $y = 5\text{ft}$
 $Z = 161.62^\circ$ $z = 16.82\text{ft}$ $Z =$ $z =$

$$\frac{\sin 13}{12} = \frac{\sin Y}{5}$$

$$\frac{\sin 161.62}{z} = \frac{\sin 13}{12}$$

3. $\triangle ABC$ $\triangle ABC$ (2nd Possible \triangle)
 $A = 26.57^\circ$ $a = 4\text{cm}$ $A = 153.43^\circ$ $a = 4\text{cm}$
 $B = 34^\circ$ $b = 5\text{cm}$ $B = 34^\circ$ $b = 5\text{cm}$
 $C = 119.43^\circ$ $c = 7.8\text{cm}$ $C =$ $c =$

$$\frac{\sin 34}{5} = \frac{\sin A}{4}$$

$$\frac{\sin 34}{5} = \frac{\sin 119.43}{c}$$

4. $\triangle XYZ$ $\triangle XYZ$ (2nd Possible \triangle)
 $X = 13^\circ$ $x = 12\text{ft}$ $X = 13^\circ$ $x = 12\text{ft}$
 $Y = 16.33^\circ$ $y = 15\text{ft}$ $Y = 163.67^\circ$ $y = 15\text{ft}$
 $Z = 150.67^\circ$ $z = 26.13\text{ft}$ $Z = 3.33^\circ$ $z = 3.1\text{ft}$

$$\frac{\sin 13}{12} = \frac{\sin Y}{15}$$

$$\frac{\sin 13}{12} = \frac{\sin 150.67}{z}$$

5. $\triangle ABC$ $\triangle ABC$ (2nd Possible \triangle)
 $A =$ $a = 4\text{cm}$ $A =$ $a = 4\text{cm}$
 $B = 34^\circ$ $b = 2\text{cm}$ $B = 34^\circ$ $b = 2\text{cm}$
 $C =$ $c =$ $C =$ $c =$

$$\frac{\sin 34}{2} = \frac{\sin A}{4}$$

No triangle

6. $\triangle XYZ$ $\triangle XYZ$ (2nd Possible \triangle)
 $X = 13^\circ$ $x = 12\text{ft}$ $X = 13^\circ$ $x = 12\text{ft}$
 $Y =$ $y = 60\text{ft}$ $Y =$ $y = 60\text{ft}$
 $Z =$ $z =$ $Z =$ $z =$

$$\frac{\sin 13}{12} = \frac{\sin Y}{60}$$

No triangle

Solve each Triangle:

7. $\triangle RST$ $\triangle RST$ (2nd Possible \triangle)
 $R = 130^\circ$ $r = 20 \text{ in}$ $R = 130^\circ$ $r = 20 \text{ in}$
 $S = \underline{12.2}$ $s = \underline{5.5 \text{ m}}$ $S = \underline{\quad}$ $s = \underline{\quad}$
 $T = \underline{37.8}$ $t = 16 \text{ in}$ $T = \underline{142.2}$ $t = 16 \text{ in}$

$$\frac{\sin 130}{20} = \frac{\sin T}{16}$$

$$\frac{\sin 12.2}{5} = \frac{\sin 130}{20}$$

8. $\triangle OBT$ $\triangle OBT$ (2nd Possible \triangle)
 $O = 170^\circ$ $o = 19 \text{ m}$ $O = 170^\circ$ $o = 19 \text{ m}$
 $B = \underline{4.2}$ $b = \underline{8.0 \text{ m}}$ $B = \underline{\quad}$ $b = \underline{\quad}$
 $T = \underline{5.8^\circ}$ $t = 11 \text{ m}$ $T = \underline{174.2}$ $t = 11 \text{ m}$

$$\frac{\sin 170}{19} = \frac{\sin T}{11}$$

$$\frac{\sin 170}{19} = \frac{\sin 4.2}{b}$$

9. $\triangle ABC$ $\triangle ABC$ (2nd Possible \triangle)
 $A = 19^\circ$ $a = 25 \text{ mi}$ $A = 19^\circ$ $a = 25 \text{ mi}$
 $B = \underline{130^\circ}$ $b = \underline{51.4 \text{ mi}}$ $B = \underline{4^\circ}$ $b = \underline{5.4 \text{ mi}}$
 $C = \underline{23.0^\circ}$ $c = 30 \text{ mi}$ $C = \underline{157^\circ}$ $c = 30 \text{ mi}$

$$\frac{\sin 19}{25} = \frac{\sin C}{30}$$

$$\frac{\sin 130}{b} = \frac{\sin 19}{25}$$

10. $\triangle HSC$ $\triangle HSC$ (2nd Possible \triangle)
 $H = 28^\circ$ $h = 50 \text{ mm}$ $H = 28^\circ$ $h = 50 \text{ mm}$
 $S = \underline{141.2^\circ}$ $s = \underline{66.7 \text{ mm}}$ $S = \underline{\quad}$ $s = \underline{\quad}$
 $C = \underline{10.8^\circ}$ $c = 20 \text{ mm}$ $C = \underline{169.2}$ $c = 20 \text{ mm}$

$$\frac{\sin 28}{50} = \frac{\sin C}{20}$$

$$\frac{\sin 141.2^\circ}{5} = \frac{\sin 28}{50}$$

11. $\triangle XYZ$ $\triangle XYZ$ (2nd Possible \triangle)
 $X = 58^\circ$ $x = 9.3 \text{ cm}$ $X = 58^\circ$ $x = 9.3 \text{ cm}$
 $Y = \underline{78.85^\circ}$ $y = \underline{10.76 \text{ cm}}$ $Y = \underline{\quad}$ $y = \underline{\quad}$
 $Z = \underline{43.15^\circ}$ $z = 7.5 \text{ cm}$ $Z = \underline{\quad}$ $z = 7.5 \text{ cm}$

$$\frac{\sin 58}{9.3} = \frac{\sin Z}{7.5}$$

$$\frac{\sin 58}{9.3} = \frac{\sin 78.85}{y}$$

12. $\triangle BIG$ $\triangle BIG$ (2nd Possible \triangle)
 $B = 110^\circ$ $b = 1000 \text{ yd}$ $B = 110^\circ$ $b = 1000 \text{ yd}$
 $I = \underline{12.25^\circ}$ $i = \underline{225.8 \text{ yd}}$ $I = \underline{\quad}$ $i = \underline{\quad}$
 $G = \underline{57.75^\circ}$ $g = 900 \text{ yd}$ $G = \underline{122.25}$ $g = 900 \text{ yd}$

$$\frac{\sin 110}{1000} = \frac{\sin G}{900}$$

$$\frac{\sin 110}{1000} = \frac{\sin 12.25}{i}$$