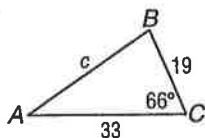


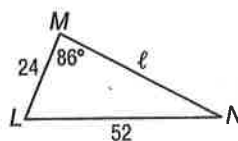
Name: \_\_\_\_\_

Determine whether the Law of Sines or the Law of Cosines should be used first to solve each triangle. Then solve each triangle. Round angle measures to the nearest degree and side measures to the nearest tenth.

9.



10.



11.  $a = 10, b = 14, c = 19$

12.  $a = 12, b = 10, m\angle C = 27$

Solve each  $\triangle RST$  described below. Round measures to the nearest tenth.

13.  $r = 12, s = 32, t = 34$

14.  $r = 30, s = 25, m\angle T = 42$

15.  $r = 15, s = 11, m\angle R = 67$

16.  $r = 21, s = 28, t = 30$

Determine whether the Law of Sines or the Law of Cosines should be used first to solve  $\triangle ABC$ . Then solve each triangle. Round angle measures to the nearest degree and side measure to the nearest tenth.

9.  $a = 13, b = 18, c = 19$

10.  $a = 6, b = 19, m\angle C = 38$

11.  $a = 17, b = 22, m\angle B = 49$

12.  $a = 15.5, b = 18, m\angle C = 72$

Solve each  $\triangle FGH$  described below. Round measures to the nearest tenth.

13.  $m\angle F = 54, f = 12.5, g = 11$

14.  $f = 20, g = 23, m\angle H = 47$

15.  $f = 15.8, g = 11, h = 14$

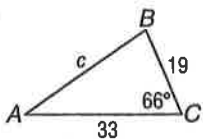
16.  $f = 36, h = 30, m\angle G = 54$

17. **REAL ESTATE** The Esposito family purchased a triangular plot of land on which they plan to build a barn and corral. The lengths of the sides of the plot are 320 feet, 286 feet, and 305 feet. What are the measures of the angles formed on each side of the property?

Name: \_\_\_\_\_

Determine whether the Law of Sines or the Law of Cosines should be used first to solve each triangle. Then solve each triangle. Round angle measures to the nearest degree and side measures to the nearest tenth.

9.

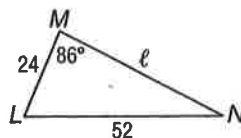


Cosines,  $m\angle A \approx 34$ ;  
 $m\angle B \approx 80$ ;  $c \approx 30.7$

11.  $a = 10, b = 14, c = 19$

Cosines;  $m\angle A \approx 31$ ;  
 $m\angle B \approx 46$ ;  $m\angle C \approx 103$

10.



Sines;  $m\angle L \approx 67$ ;  
 $m\angle N \approx 27$ ;  $l \approx 47.8$

12.  $a = 12, b = 10, m\angle C = 27$

Cosines;  $m\angle A \approx 97$ ;  
 $m\angle B \approx 56$ ;  $c \approx 5.5$

Solve each  $\triangle RST$  described below. Round measures to the nearest tenth.

13.  $r = 12, s = 32, t = 34$

$m\angle R \approx 20.7$ ;  $m\angle S \approx 70.2$ ;  $m\angle T \approx 89.1$

14.  $r = 30, s = 25, m\angle T = 42$

$m\angle R \approx 82.3$ ;  $m\angle S \approx 55.7$ ;  $t \approx 20.3$

15.  $r = 15, s = 11, m\angle R = 67$

$m\angle S \approx 42.5$ ;  $m\angle T \approx 70.5$ ;  $t \approx 15.4$

16.  $r = 21, s = 28, t = 30$

$m\angle R \approx 42.3$ ;  $m\angle S \approx 63.8$ ;  $m\angle T \approx 74.0$

Determine whether the Law of Sines or the Law of Cosines should be used first to solve  $\triangle ABC$ . Then solve each triangle. Round angle measures to the nearest degree and side measure to the nearest tenth.

9.  $a = 13, b = 18, c = 19$

Cosines;  $m\angle A \approx 41$ ;  
 $m\angle B \approx 65$ ;  $m\angle C \approx 74$

11.  $a = 17, b = 22, m\angle B = 49$

Sines;  $m\angle A \approx 36$ ;  
 $m\angle C \approx 95$ ,  $c \approx 29.0$

10.  $a = 6, b = 19, m\angle C = 38$

Cosines;  $m\angle A \approx 15$ ;  
 $m\angle B \approx 127$ ;  $c \approx 14.7$

12.  $a = 15.5, b = 18, m\angle C = 72$

Cosines;  $m\angle A \approx 48$ ;  
 $m\angle B \approx 60$ ;  $c \approx 19.8$

Solve each  $\triangle FGH$  described below. Round measures to the nearest tenth.

13.  $m\angle F = 54, f = 12.5, g = 11$

$m\angle G \approx 45.4$ ;  $m\angle H \approx 80.6$ ;  $h \approx 15.2$

14.  $f = 20, g = 23, m\angle H = 47$

$m\angle F \approx 57.4$ ;  $m\angle G \approx 75.6$ ;  $h \approx 17.4$

15.  $f = 15.8, g = 11, h = 14$

$m\angle F \approx 77.4$ ;  $m\angle G \approx 42.8$ ;  $m\angle H \approx 59.8$

16.  $f = 36, h = 30, m\angle G = 54$

$m\angle F \approx 73.1$ ;  $m\angle H \approx 52.9$ ;  $g \approx 30.4$

17. **REAL ESTATE** The Esposito family purchased a triangular plot of land on which they plan to build a barn and corral. The lengths of the sides of the plot are 320 feet, 286 feet, and 305 feet. What are the measures of the angles formed on each side of the property?

65.5, 57.4, 60.1