NAME _____ DATE _____ PERIOD _____

5-6

Practice

The Law of Sines

Solve each triangle. Round to the nearest tenth.

1. $A = 38°, B = 63°, c = 15$

2. $A = 33°, B = 29°, b = 41$

3. $A = 150°, C = 20°, a = 200$

4. $A = 30°, B = 45°, a = 10$

Find the area of each triangle. Round to the nearest tenth.

5. $c = 4, A = 37°, B = 69°$

6. $C = 85°, a = 2, B = 19°$

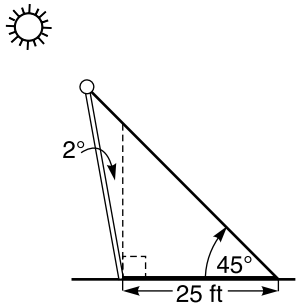
7. $A = 50°, b = 12, c = 14$

8. $b = 14, C = 110°, B = 25°$

9. $b = 15, c = 20, A = 115°$

10. $a = 68, c = 110, B = 42.5°$

11. ***Street Lighting*** A lamppost tilts toward the sun at a 2° angle from the vertical and casts a 25-foot shadow. The angle from the tip of the shadow to the top of the lamppost is 45°. Find the length of the lamppost.



NAME _____ DATE _____ PERIOD _____

5-6

Practice

The Law of Sines

Solve each triangle. Round to the nearest tenth.

1. $A = 38°, B = 63°, c = 15$
$C = 79°, a = 9.4, b = 13.6$

2. $A = 33°, B = 29°, b = 41$
$C = 118°, a = 46.1, c = 74.7$

3. $A = 150°, C = 20°, a = 200$
$B = 10°, b = 69.5, c = 136.8$

4. $A = 30°, B = 45°, a = 10$
$C = 105°, b = 14.1, c = 19.3$

Find the area of each triangle. Round to the nearest tenth.

5. $c = 4, A = 37°, B = 69°$
4.7 units²

6. $C = 85°, a = 2, B = 19°$
0.7 units²

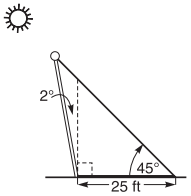
7. $A = 50°, b = 12, c = 14$
64.3 units²

8. $b = 14, C = 110°, B = 25°$
154.1 units²

9. $b = 15, c = 20, A = 115°$
135.9 units²

10. $a = 68, c = 110, B = 42.5°$
2526.7 units²

11. ***Street Lighting*** A lamppost tilts toward the sun at a 2° angle from the vertical and casts a 25-foot shadow. The angle from the tip of the shadow to the top of the lamppost is 45°. Find the length of the lamppost.
about 25.9 ft



NAME _____ DATE _____ PERIOD _____

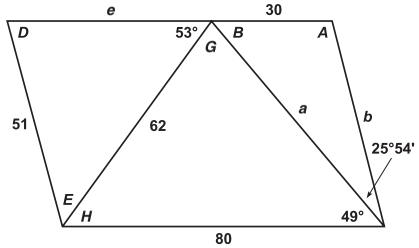
5-6

Enrichment

Triangle Challenge

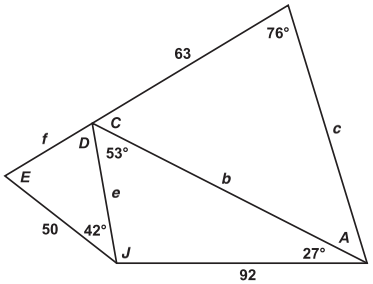
A surveyor took the following measurements from two irregularly-shaped pieces of land. Some of the lengths and angle measurements are missing. Find all missing lengths and angle measurements. Round lengths to the nearest tenth and angle measurements to the nearest minute.

1.



$a \approx 66.7$; $b \approx 52.7$; $e \approx 49.5$
$A \approx 103°58'$; $B \approx 50°8'$; $D \approx 76°8'$;
$E \approx 50°52'$; $G \approx 76°52'$; $H \approx 54°8'$

2.



$b \approx 113.4$; $c \approx 110.8$; $e \approx 52.3$; $f \approx 40.5$;
$A \approx 32°37'$; ; $C \approx 71°23'$; $D \approx 55°37'$;
$E \approx 82°23'$; $J \approx 100°$