LESSON	Practice B
8-4	Angles of Elevation and Depression

Date

Marco breeds and trains homing pigeons on the roof of his building. Classify each angle as an angle of elevation or an angle of depression.

 1. ∠1

 2. ∠2

Name

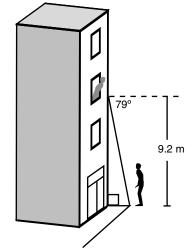
- **3.** ∠3 _____
- **4.** ∠4 _____

To attract customers to his car dealership, Frank tethers a large red balloon to the ground. In Exercises 5–7, give answers in feet and inches to the nearest inch. (*Note:* Assume the cord that attaches to the balloon makes a straight segment.)

- The sun is directly overhead. The shadow of the balloon falls 14 feet 6 inches from the tether. Frank sights an angle of elevation of 67°. Find the height of the balloon.
- 6. Find the length of the cord that tethers the balloon.
- **7.** The wind picks up and the angle of elevation changes to 59°. Find the height of the balloon.

Lindsey shouts down to Pete from her third-story window.

- Lindsey is 9.2 meters up, and the angle of depression from Lindsey to Pete is 79°. Find the distance from Pete to the base of the building to the nearest tenth of a meter.
- **9.** To see Lindsey better, Pete walks out into the street so he is 4.3 meters from the base of the building. Find the angle of depression from Lindsey to Pete to the nearest degree.
- **10.** Mr. Shea lives in Lindsey's building. While Pete is still out in the street, Mr. Shea leans out his window to tell Lindsey and Pete to stop all the shouting. The angle of elevation from Pete to Mr. Shea is 72°. Tell whether Mr. Shea lives above or below Lindsey.



14 ft 6 in.

Class

TESSON Practice A	LESSON Practice B
8-4 Angles of Elevation and Depression	8-4 Angles of Elevation and Depression
In Exercises 1 and 2, fill in the blanks to complete the definitions.	Marco breeds and trains homing pigeons on the roof of his building. Classify each angle as an angle of
An angle of elevation is the angle formed by a <u>IIOTIZOIIIa</u> line and a line of sight to a point <u>above</u> the line.	elevation or an angle of depression.
2. An angle of	1. ∠1 angle of elevation
a line of sight to a pointbelow the line.	2. ∠2 angle of depression
Ben is on the diving board at the neighborhood	3. $\angle 3$ angle of depression
pool. Jenna is in the pool, and a lifeguard sits at her station on the opposite end of the pool.	angle of elevation
Classify each angle as an angle of elevation or an angle of depression.	4. ∠4 <u>angle of elevation</u>
	To attract customers to his car dealership, Frank tethers a large red balloon
3. $\angle 1$ angle of depression 4. $\angle 2$ angle of elevation	to the ground. In Exercises 5–7, give answers in feet and inches to the nearest inch. (Note: Assume the cord that attaches to the balloon makes
5. $\angle 3$ angle of depression 6. $\angle 4$ angle of elevation	a straight segment.)
	5. The sun is directly overhead. The shadow of the balloon falls 14 the in. 14 feet 6 inches from the tether. Frank sights an angle of elevation
Lisa sees a bird's nest high in a tree. She decides to use trigonometry to estimate how high the nest is.	of 67°. Find the height of the balloon.
7. Lisa walks 15 feet from the base of the tree. She measures an angle	6. Find the length of the cord that tethers the balloon. 37 ft 1 in.
of elevation from the ground to the nest of 62°. Find how high the nest is above the ground, to the nearest foot.	7. The wind picks up and the angle of elevation changes to 59°. Find the height of the balloon. 31 ft 10 in.
28 feet	
8. Lisa spots the mother bird on a branch above the nest. She measures an angle of elevation to the bird of 67°. Find how	Lindsey shouts down to Pete from her third-story window.
high the mother bird is above the ground, to the nearest foot.	8. Lindsey is 9.2 meters up, and the angle of depression from Lindsey to Pete is 79°. Find the distance from Pete to the base
35 feet	of the building to the nearest tenth of a meter.
Zelda, a trapeze artist, stands on a 10-meter-high platform.	9. To see Lindsey better, Pete walks out into the street so he is
9. Zelda measures a 40° angle of depression to	4.3 meters from the base of the building. Find the angle of
the base of the other platform. Find the distance between the bases of the platforms to the nearest	depression from Lindsey to Pete to the nearest degree.
tenth of a meter	
<u>11.9 meters</u>	10. Mr. Shea lives in Lindsey's building. While Pete is still out in the street, Mr. Shea leans out his window to tell Lindsey and
10. Zelda's partner, Zev, is on the ground doing a safety check on the net. Zelda measures a 79° angle of	Pete to stop all the shouting. The angle of elevation from Pete to Mr. Shea is 72°. Tell whether Mr. Shea lives above or below
depression to Zev. Find the distance to the nearest tenth of a meter from Zev to the base of Zelda's platform.	Lindsey.
1.9 meters	Mr. Shea lives above Lindsey.
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LESSON Practice C	
8-4 Angles of Elevation and Depression	Reteach 8:4 Angles of Elevation and Depression
	Itesson Reteach 844 Angles of Elevation and Depression
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