Describe each angle as it relates to the situation in the diagram.

1. ∠1

2. ∠2

3. ∠3

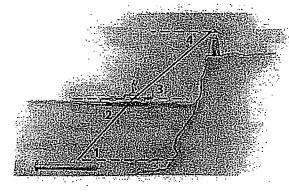
4. 74

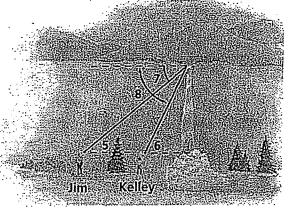
5. ∠5

6. ∠6

7. 47

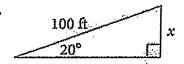
8. ∠8



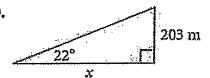


Find the value of x. Round the lengths to the nearest tenth of a unit.

9.

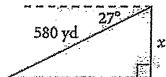


10.

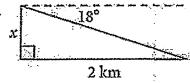


Find the value of x. Round the lengths to the nearest tenth of a unit.

12.



13.



14. Indirect Measurement Miguel looks out from the crown of the Statue of Liberty approximately 250 ft above ground. He sights a ship coming into New York harbor and measures the angle of depression as 18°. Find the distance from the base of the statue to the ship to the nearest foot.

15. Flagpole The world's tallest unsupported flagpole is a 282-ft-tall steel pole in Surrey, British Columbia. The shortest shadow cast by the pole during the year is 137 ft long. To the nearest degree, what is the angle of elevation of the sun when the shortest shadow is cast?

16. Engineering The Americans with Disabilities Act states that wheelchair ramps can have a slope no greater than $\frac{1}{12}$. Find the angle of elevation of a ramp with this slope. Round your answer to the nearest tenth.

17. Construction Two office buildings are 51 m apart. The height of the taller building is 207 m. The angle of depression from the top of the taller building to the top of the shorter building is 15°. Find the height of the shorter building to the nearest meter.

