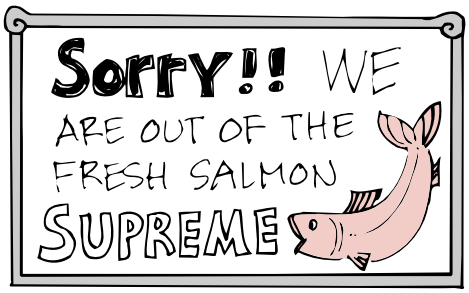
Overestimates and Underestimates

An **overestimate** is too high. An **underestimate** is too low. Sometimes people overestimate or underestimate on purpose.



A restaurant owner buying fresh fish in the morning might intentionally underestimate the number of customers who will order fish that day. Fish spoils easily, and she does not want any to go to waste.

Think about each situation. Briefly explain each of your answers.

Should you overestimate or underestimate—

1. the length of most movies when you are renting videos for a 6-hour party? _____

_____

2. the amount of ice cream to buy for a summer picnic? _____

_____

3. the number of life jackets needed for a boat trip? _____

_____

4. the number of people who can ride in an elevator designed to carry 1,000 pounds? _____

_____

5. the number of tuna sandwiches to make for a bike trip? _____

_____

6. the number of cans of soda to buy for a party? _____

_____

7. the length of time it will take to get to the airport to make a flight? _____

_____

8. the number of quarters needed for parking meters during an afternoon of running errands?

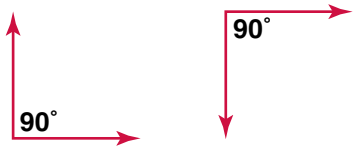
_____

Challenger

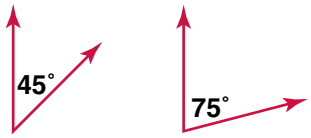
Imagine that a friend has invited 20 guests to a party. Write some estimation tips to help your friend avoid wasting food or money.

Estimation and Angle Measures

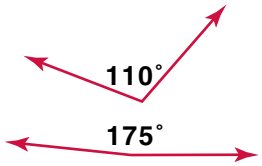
It is often helpful to be able to estimate the measure of an angle.



A **right angle** measures 90°.



An **acute angle** measures less than 90°.



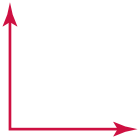
An **obtuse angle** measures more than 90°.

Look at each angle below. Write whether it is *acute, obtuse,* or *right.* Then estimate its measure and write the number of degrees inside the angle.

1.

_____

2.



_____

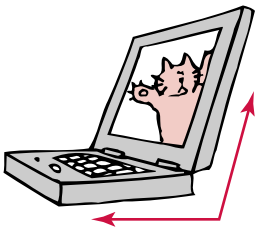
3.

_____

4.

_____

5.

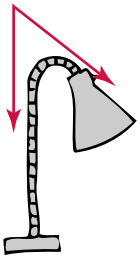


_____

6.

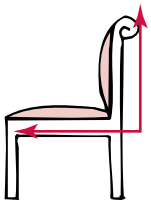
_____

7.



_____

8.



_____

Answer each question below.

9. Do you open the refrigerator door at an angle that is closest to 45°, 90°, or 180°? Explain why.

_____

10. Could a wheelchair ramp rise at an angle of 55°? Explain your thinking. _____

_____

Challenger

Imagine a car is at a four-way intersection. It turns left. A block later, at another four-way intersection, it turns right. Estimate the angle of each turn and the *total* change in direction. Explain your answer.