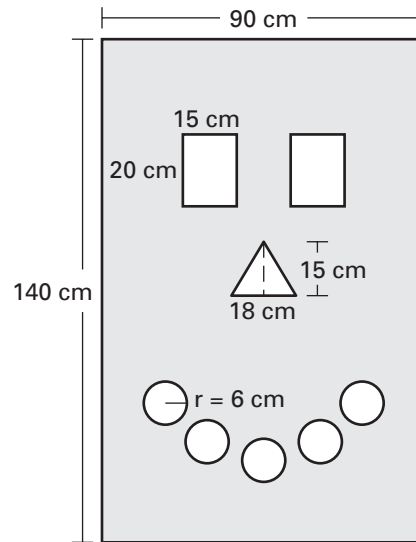


Real-Life Application: When Will I Ever Use This?

For use with pages 699–705

Carnival Game

A game at a local carnival involves tossing beanbags at the target shown below. A person wins a prize if the beanbag goes through the eyes, nose, or part of the mouth.



In Exercises 1–6, assume each person is throwing one beanbag. Round your results to three decimal places.

- Find the probability that someone throws the beanbag through the left eye.
- Find the probability that someone throws the beanbag through either eye.
- Find the probability that someone throws the beanbag through the nose.
- Find the probability that someone throws the beanbag through the mouth.
- Find the probability that someone throws the beanbag through the circle at the far right of the mouth.
- Find the probability that someone will win a prize.
- Suppose that after the first night of the carnival, there are very few winners. A new target board is made with the lengths of the shapes on the target increased by two centimeters (The main board remains 140 cm by 90 cm.). The eyes are now 22 cm by 17 cm, the nose has a height of 17 cm and a base of 20 cm, and the circles for the mouth have a radius of 8 cm. Find the probability that someone will win a prize with the new target.