

**LESSON**  
**10-6**

**Practice C**  
**Three-Dimensional Figures**

Tell whether each figure is a polyhedron and name the three-dimensional figure. Then identify the number of faces, edges, and vertices in each three-dimensional figure.

1.



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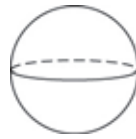
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2.



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3.



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4.



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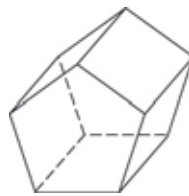
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5.



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6.



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7. A construction company is building two hotels that will be the same height, and have bases that are the same size. One will be a rectangular prism and the other will be a rectangular pyramid. Which building will require more gallons of paint to completely cover it? Why?

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### Puzzles, Twisters & Teasers

- 113.04
- 19.63
- 30.18
- 132.67
- 63.59
- 94.99

### B O T T O M

### LESSON 10-6

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#### Practice A

- 6
- 12
- 8
- rectangle
- rectangular prism
- no; a cylinder
- yes; triangular prism
- no; sphere
- a rectangular prism
- Answers will vary, but should identify and name 5 three-dimensional figures in the classroom. Possible answers include eraser: rectangular prism; chalk: cylinder; globe: sphere; mug: cylinder; desk: rectangular prism.

#### Practice B

- 6 faces; 12 edges; 8 vertices
- 4 faces; 6 edges; 4 vertices
- 5 faces; 8 edges; 5 vertices
- no; cone
- yes; rectangular pyramid
- no; sphere
- She needs 6 square pieces of wood because a cube has 6 square faces.
- It is a triangular pyramid, because a pyramid has only 1 base, and the shape of that base defines what kind of pyramid it is.

#### Practice C

- yes; triangular prism; 5 faces; 9 edges; 6 vertices

- no; sphere; no faces; no edges; no vertices
- yes; hexagonal pyramid; 7 faces; 12 edges; 7 vertices
- no; cylinder; 2 faces; no edges; no vertices
- yes; pentagonal prism; 7 faces; 15 edges; 10 vertices
- yes; octagonal pyramid; 9 faces; 16 edges; 9 vertices
- the rectangular prism building  
Possible answer: because it has one more side to paint.

#### Review for Mastery

- 6, 12, 8
- 5, 8, 5
- no, cone
- yes, rectangular prism

#### Challenge

Triangular Prism	Rectangular Prism	Pentagonal Prism	Hexagonal Prism
3	4	5	6
5	6	7	8
6	8	10	12
9	12	15	18

$$\text{faces} = n + 2; \text{vertices} = 2n; \text{edges} = 3n$$

Triangular Pyramid	Rectangular Pyramid	Pentagonal Pyramid	Hexagonal Pyramid
3	4	5	6
4	5	6	7
4	5	6	7
6	8	10	12

$$\text{faces} = n + 1; \text{vertices} = n + 1; \text{edges} = 2n$$

#### Problem Solving

- a rectangular or square pyramid
- eraser: rectangular prism; chalk: cylinder
- 2 cylinders