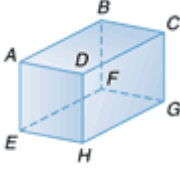


## Lesson 11-1

### Example 1 Identify Prisms and Pyramids

Identify each solid. Name the bases, faces, edges, and vertices.

a.



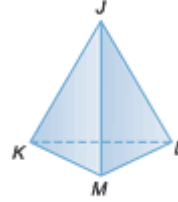
This figure has two parallel congruent bases that are rectangles,  $ABCD$  and  $EFGH$ , so it is a rectangular prism.

faces:  $ABCD$ ,  $ABFE$ ,  $BCGF$ ,  $DCGH$ ,  $ADHE$ ,  $EFGH$

edges:  $\overline{AB}$ ,  $\overline{BC}$ ,  $\overline{CD}$ ,  $\overline{DA}$ ,  $\overline{EF}$ ,  $\overline{FG}$ ,  $\overline{GH}$ ,  $\overline{HE}$ ,  $\overline{AE}$ ,  $\overline{DH}$ ,  $\overline{CG}$ ,  $\overline{BF}$

vertices:  $A$ ,  $B$ ,  $C$ ,  $D$ ,  $E$ ,  $F$ ,  $G$ ,  $H$

b.



This figure has one triangular base,  $KLM$ , so it is a triangular pyramid.

faces:  $KLM$ ,  $JKM$ ,  $JML$ ,  $JKL$

edges:  $\overline{JK}$ ,  $\overline{JM}$ ,  $\overline{JL}$ ,  $\overline{KM}$ ,  $\overline{ML}$ ,  $\overline{LK}$

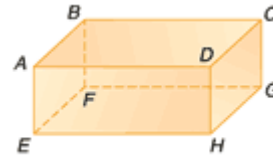
vertices:  $J$ ,  $K$ ,  $L$ ,  $M$

### Example 2 Identify Diagonals and Skew Lines

Identify a diagonal and name all segments that are skew to it.

$\overline{CE}$  is a diagonal because vertex  $C$  and vertex  $E$  do not intersect any of the same faces.

$\overline{AB}$ ,  $\overline{AD}$ ,  $\overline{GH}$ ,  $\overline{FG}$ ,  $\overline{BF}$ , and  $\overline{DH}$  are skew to  $\overline{CE}$ .

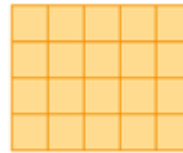


### Example 3 Analyze Real-World Drawings

**ARCHITECTURE** An architect's sketch shows the plans for a new building. Each unit on the drawing represents 30 feet.

a. Find the area of the ground floor using the top view shown at the right.

The drawing is 5 x 4, so the actual dimensions are 5(30) x 4(30) or 150 feet by 120 feet.



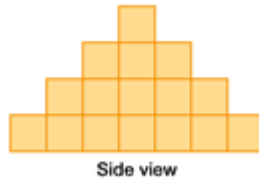
Top view

$$A = \ell \cdot w \quad \text{Formula for area}$$

$$A = 150 \text{ ft} \cdot 120 \text{ ft} \text{ or } 18,000 \text{ square feet}$$

- b. Use the side view shown at the right to determine how many floors are in the office building if each floor is 15 feet high?

You can see from the side view that the height of the building is 4 units.



Total height:  $4 \text{ units} \times 30 \text{ feet per unit} = 120 \text{ feet}$

Number of floors:  $120 \text{ feet} \div 15 \text{ feet per floor} = 8 \text{ floors}$