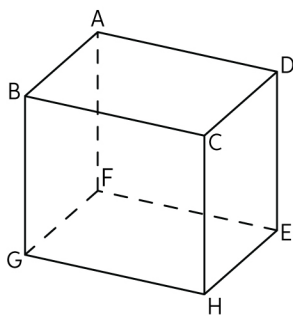


Parallel and Perpendicular Lines in Geometry

1. Use the given diagram to answer the following questions.



- a) Name all line segments parallel to \overline{DE} _____
- b) Name all line segments parallel to \overline{HE} _____
- c) Name all line segments parallel to \overline{BC} _____

2. For each equation, identify the slope. Then find out the slope of a parallel and a perpendicular line.

a) $y = \frac{7}{8}x - 11$

b) $y - 22 = -\frac{11}{6}(x + 8)$

Slope

Slope

Slope of parallel

Slope of parallel

Slope of perpendicular

Slope of perpendicular

c) $y + 13 + 2x = -5x + 15$

d) $6x - 4y = 29$

Slope

Slope

Slope of parallel

Slope of parallel

Slope of perpendicular

Slope of perpendicular

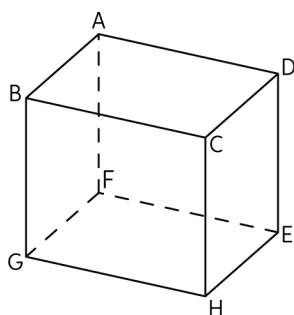
3. Complete the following statements.

- a) Parallel lines have the _____ slope.
- b) Perpendicular lines have _____ slope.
- c) The two straight lines in the same plane which never meet are called _____ lines.

Parallel and Perpendicular Lines in Geometry

1.

Answers



- a) Name all line segments parallel to \overline{DE} $\overline{CH}, \overline{BG}, \overline{AF}$
- b) Name all line segments parallel to \overline{HE} $\overline{AB}, \overline{CD}, \overline{GF}$
- c) Name all line segments parallel to \overline{BC} $\overline{GH}, \overline{AD}, \overline{FE}$

2.

a) $y = \frac{7}{8}x - 11$

b) $y - 22 = -\frac{11}{6}(x + 8)$

Slope

$$\frac{7}{8}$$

Slope

$$-\frac{11}{6}$$

Slope of parallel

$$\frac{7}{8}$$

Slope of parallel

$$-\frac{11}{6}$$

Slope of perpendicular

$$-\frac{8}{7}$$

Slope of perpendicular

$$\frac{6}{11}$$

c) $y + 13 + 2x = -5x + 15$

d) $6x - 4y = 29$

Slope

$$-7$$

Slope

$$\frac{3}{2}$$

Slope of parallel

$$-7$$

Slope of parallel

$$\frac{3}{2}$$

Slope of perpendicular

$$\frac{1}{7}$$

Slope of perpendicular

$$-\frac{2}{3}$$

3.

- a) Parallel lines have the same slope.
- b) Perpendicular lines have negative reciprocal slope.
- c) The two straight lines in the same plane which never meet are called parallel lines.