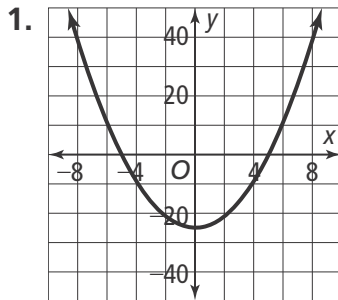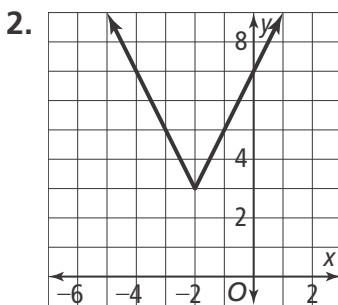# 1-1 Additional Practice

Key Features of Functions

For Items 1–2, identify the following information for the function of each graph:

1.

Domain:

Range:

x-intercepts:

y-intercepts:

Interval positive:

Interval negative:

Interval increasing:

Interval decreasing:

Average rate of change over $[-5, 0]$:

2.

Domain:

Range:

x-intercepts:

y-intercepts:

Interval positive:

Interval negative:

Interval increasing:

Interval decreasing:

Average rate of change over $[-2, 0]$:

3. Sketch a linear graph given the following key features:
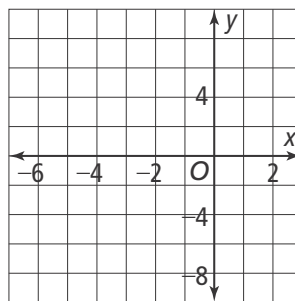
Domain: $(-\infty, \infty)$

Range: $(-\infty, \infty)$

Increasing: $(-\infty, \infty)$

x-intercepts: -2.5

y-intercept: 10

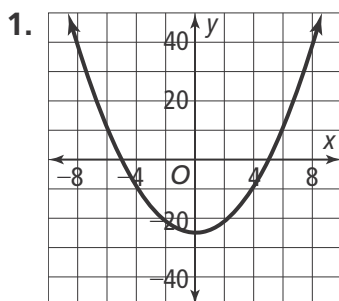Positive: $(-2.5, \infty)$

Negative: $(-\infty, -2.5)$

4. Chiang is filling a 50 ft^3 container with water at a rate of 0.5 ft^3/min. Interpret the key features for this situation.

1-1 Additional Practice

Key Features of Functions

For Items 1–2, identify the following information for the function of each graph:

1.

Domain: **(−∞, ∞)**

Range: **[−25, ∞)**

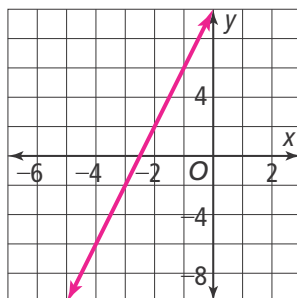*x*-intercepts: **−5, 5**

y-intercepts: **−25**

Interval positive: **(−∞, −5) and (5, ∞)**

Interval negative: **(−5, 5)**

Interval increasing: **(0, ∞)**

Interval decreasing: **(−∞, 0)**

Average rate of change over [−5, 0]: **−5**

2.
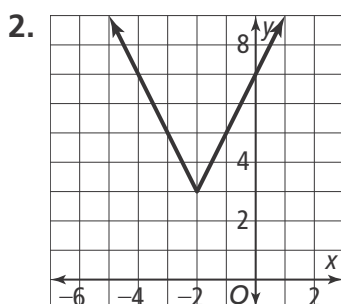
Domain: **(−∞, ∞)**

Range: **[3, ∞)**

x-intercepts: **none**

y-intercepts: **7**

Interval positive: **(−∞, ∞)**

Interval negative: **none**

Interval increasing: **(−2, ∞)**

Interval decreasing: **(−∞, −2)**

Average rate of change over [−2, 0]: **2**

3. Sketch a linear graph given the following key features:

Domain: (−∞, ∞)

Range: (−∞, ∞)

Increasing: (−∞, ∞)

x-intercepts: −2.5

y-intercept: 10

Positive: (−2.5, ∞)

Negative: (−∞, −2.5)

4. Chiang is filling a 50 ft³ container with water at a rate of 0.5 ft³/min. Interpret the key features for this situation. **Domain: [0, 100]; Range: [0, 50] Increasing: [0, 100]; Decreasing: N/A; *x*-intercepts: 0; *y*-intercepts: 0; Positive: (0, 100]; Negative: N/A.**