Math Essentials 10 Teacher Learning Centre
Answer Links

<Section 4.1 Answers>

Answers to Activity Questions (pages 80–83)

1. Example:

a) feet and inches **b)** kilometres per hour

c) pounds **d)** litre

e) Celsius **f)** Fahrenheit

2. $0, \frac{1}{16}, \frac{1}{8}, \frac{3}{16}, \frac{1}{4}, \frac{5}{16}, \frac{3}{8}, \frac{9}{16}, \frac{5}{8}$

$\frac{11}{16}, \frac{13}{16}, \frac{7}{8}, \frac{15}{16}$

3. a) $\frac{8}{16}''$ **b)** $\frac{1}{4}''$ or $\frac{4}{16}''$ **c)** $\frac{1}{8}''$ or $\frac{2}{16}''$ **d)** $\frac{1}{16}''$

4. a) $\frac{1}{16}$ **b)** $\frac{4}{16} = \frac{1}{4}$ **c)** $\frac{10}{16} = \frac{5}{8}$ **d)** $\frac{13}{16}$

5. a) $\frac{1}{8}$ **b)** $\frac{3}{8}$ **c)** $\frac{6}{8} = \frac{3}{4}$ **d)** $\frac{7}{8}$

6. a) $\frac{1}{4}$ **b)** $\frac{2}{4} = \frac{1}{2}$ **c)** $\frac{3}{4}$

7. a)  **b)**  **c)** 

d)  **e)**  **f)** 

g)  **h)** 

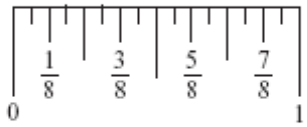
8. Make sure students have drawn lines of the correct lengths.

<Section 4.2 Answers>

Answers to Activity Questions (pages 85–87)

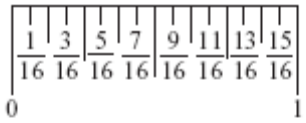
1.

2.



3. Answers may vary. The fractions written below each line should be written in lowest terms. Students should notice that the denominators are the same for the fractions below lines of equal heights. They also may notice that as the size of the denominator increases, the height of the line decreases.

4.



5. YES

6. $\frac{1}{2}$ is the only fraction with a denominator of 2.

Lines with the same lengths all have the same denominator.

7. **a)** $\frac{1}{4}''$ **b)** $\frac{15}{16}''$ **c)** $1\frac{1}{4}''$ **d)** $1\frac{15}{16}''$

8. **a)** $\frac{5}{8}''$ **b)** $1''$ **c)** $\frac{1}{2}''$

d) $\frac{3}{8}''$ **e)** $\frac{3}{8}''$ **f)** $\frac{7}{8}''$

9. **a)** $\frac{3}{8}'', \frac{3}{8}'', \frac{1}{2}'', \frac{5}{8}'', \frac{7}{8}'', 1''$

b) $0'', 0'', 1'', 1'', 1'', 1''$

<Section 4.3 Answers>

Answers to Activity Questions (pages 89–91)

1. **a)** $2\frac{1}{4}''$ **b)** $1\frac{3}{4}''$ **c)** $1\frac{5}{8}''$ **d)** $2\frac{7}{8}''$

2. **a)** $2\frac{1}{4}''$ **b)** $1\frac{13}{16}''$ **c)** $1\frac{5}{8}''$ **d)** $2\frac{7}{8}''$

3. Make sure students have drawn lines of the correct lengths on the quarter-inch grid.

4. Students should notice that if their calculations are correct, the measurements should be fairly accurate.

5. Check that lines are reasonable.

6. All students, if in the same classroom, should have very similar results. Check for accuracy in measurements.

7. Example: $61'' = 5' \; 1''$

8. **a)** feet

b) yards or feet

c) miles

d) inches

9. Answers will vary.

<Section 4.4 Answers>

Answers to Activity Questions (pages 92–95)

1. Example: **a)** 90 in.

   b) 18 in.

   c) 1 ft 6 in.

2. Example: $1\frac{1}{2}$ ft

3. Answers may vary depending on the dimensions of the classroom. Check for reasonableness of answers.

4. **a)** $\frac{13}{16}''$

   b) $\frac{11}{16}''$

   c) $\frac{15}{16}''$

   d) $1\frac{1}{16}''$

   e) $1\frac{1}{8}''$

5. loonie or quarter

6. dime

7. Example: Use 3 loonies and 1 dime.

8. Check that personal references are reasonable. Example:

   a) knuckle to tip of thumb

   b) length of thumb

   c) length of index finger

   d) length of hand from bottom of palm to tip of ring finger

   e) length of binder

   f) arm length

   g) height of desktop

   h) $5'\ 6''$

   i) 7 in.

   j) 5 ft

9. Example for part d): length of a box of tissue paper; 2 hands; 9 inches
10. Example for part d): $8\frac{15}{16}''$, YES

<Section 4.5 Answers>

Answers to Activity Questions (pages 97–99)

1. **a)** 1 ft

   b) Example: It is easy to represent.

2. **a)** 3 ft; 36 in.

   b) $2\frac{1}{2}$ ft; 30 in.

   c) 2 ft; 24 in.

3. 50 ft

4. 50 ft – (2 × 3 ft) – 2 ft – $2\frac{1}{2}$ ft = $39\frac{1}{2}$ ft

5. Dimensions for each object in quarter-inch squares:

   a) 24 squares × 12 squares

   b) 18 squares × 8 squares

   c) 12 squares × 4 squares

   d) 12 squares × 6 squares

   e) 8 squares × 4 squares (each)

6. Allow students to place the furniture wherever they want as long as there is no overlap.
7. Look for an acceptable reason for the location of each piece of furniture.
8. Students in the same classroom should have similar answers. Example:

   a) 12 ft × 16 ft

   b) 1 square : 1 ft

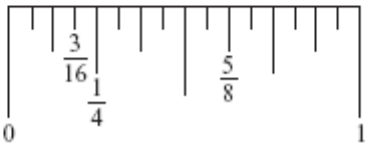
9. Students in the same classroom should have similar answers. Example:

   a) $6\frac{1}{2}$ ft, 6.5 squares, 4 ft, 4 squares

<Chapter 4 Review Answers>

Answers to Chapter 4 Review (pages 100–101)

1. scale diagram
2. perimeter
3. dimension
4. quarter-inch grid
5. **a)** 3 in.
   b) 4 ft
   c) 100 in.
6. **a)** $\frac{1}{16}''$
   b) $\frac{3}{8}''$
   c) $\frac{14}{16}''$
7. **a)** to **c)**



8. **a)** $\frac{1}{2}$
   b) $\frac{3}{4}$
   c) $\frac{3}{4}$
   d) $\frac{2}{4}$
   e) $\frac{2}{8}$
   f) $\frac{5}{8}$
9. **a)** $4\frac{1}{4}''$
   b) $2\frac{3}{8}''$
   c) $2\frac{1}{4}''$

10. **a)** Look for a rectangle that is 8 squares by 4 squares.

b) Look for a rectangle that is 4 squares by 2 squares.

c) 24 ft