Chapter 2 Test

For #1 to 5, choose the best answer.

1. Four students were asked to write the numbers $1\frac{1}{4}$, $\frac{2}{3}$, $-0.\overline{7}$, 0.72, and $-\frac{5}{7}$ in ascending order. Which student wrote the numbers in the correct order?

A Albert : $-0.\overline{7}$, $-\frac{5}{7}$, $\frac{2}{3}$, 0.72, $1\frac{1}{4}$ **B** Beth: $-\frac{5}{7}$, $-0.\overline{7}$, $1\frac{1}{4}$, $\frac{2}{3}$, 0.72

C Carmella: $-0.\overline{7}$, $-\frac{5}{7}$, 0.72, $\frac{2}{3}$, $1\frac{1}{4}$ **D** Devin: $-\frac{5}{7}$, $-0.\overline{7}$, $\frac{2}{3}$, 0.72, $1\frac{1}{4}$

2. Which rational number is between -1.06 and -1.07 on a number line?

A $-\frac{11}{10}$ **B** $-\frac{213}{200}$ **C** $-\frac{26}{25}$ **D** $-\frac{108}{100}$

3. Colin was asked to simplify the expression $6\frac{1}{8}-3\frac{5}{6}$. His work is shown below.

Step 1 $6\frac{1}{8} - 3\frac{5}{6} = (6 - 3) - \left(\frac{1}{8} - \frac{5}{6}\right)$

Step 2 $= 3 - \left(\frac{3}{24} - \frac{20}{24}\right)$

Step 3 $= 2 - \left(-\frac{17}{24}\right)$

Step 4 $= 2\frac{17}{24}$

In which step did Colin make his first mistake?
A Step 1   **B** Step 2   **C** Step 3   **D** Step 4

4. Which rational number is not an example of a square number?

A 196   **B** 0.0169   **C** $\frac{1}{9}$ **D** $\frac{4}{20}$

Complete the statements in #5 to 7.

5. A decimal number, to the nearest tenth, between $\frac{2}{3}$ and $\frac{5}{6}$ is $\boxed{}$.

6. The value of the expression $3.7 - 4.6 \div (-2.3) + 1.7$ is $\boxed{}$.

Short Answer

7. Determine the value of each of the following to the nearest tenth.
   a) $\sqrt{0.36}$ **b)** $\sqrt{64}$

8. Write the value of each expression in the form $\frac{a}{b}$.

a) $\sqrt{\dfrac{81}{25}}$ **b)** $\sqrt{\dfrac{1}{49}}$

9. Between what two whole numbers does the square root of 24 lie?

10. Determine the number that has a square root of 2.3.

11. Shavonne is wearing a flat, metal pendant in the shape of a square. The area of the pendant is 10 cm^2. Estimate the dimensions of the pendant.

Extended Response

12. The area of Mara's square pumpkin patch is 2.25 m^2. She has a square tomato garden with the same area. She wants to determine the dimensions of each garden. Mara's solution is shown below.

$$A = s^2$$
$$2A = s^2$$
$$2(2.25) = s^2$$
$$4.5 = s^2$$
$$\sqrt{4.5} = s$$
$$2.12 = s$$

What error did Mara make in her solution? Correct her solution and determine the dimensions of each garden.

13. John created a painting on a large piece of paper with a length of $2\dfrac{5}{8}$ m and a width of $1\dfrac{3}{4}$ m.

a) Write an expression in the form $a\dfrac{b}{c}$ that represents the area of the painting in lowest terms.

b) John did not paint to the edges of the paper. He decides that he wants to crop the painting by cutting off $\dfrac{1}{4}$ m from each of the four sides of the paper. What are the new dimensions of the painting, written in the form $\dfrac{a}{b}$?

c) What is the area of the cropped painting, in the form $\dfrac{a}{b}$, expressed in lowest terms?