2 Practice Test

Chapter 2 Practice Test

For #1 to #7, select the best answer.

1. Which fraction does not equal $\frac{4}{-6}$?

A $-\left(\frac{-10}{15}\right)$ **B** $-\frac{8}{12}$

C $\frac{6}{-9}$ **D** $-\left(\frac{-2}{-3}\right)$

2. Which value is greater than $-1\frac{5}{6}$?

A $-1.\overline{8}$ **B** $-1\frac{7}{8}$

C $-1.8\overline{3}$ **D** $-1\frac{4}{5}$

3. Which fraction is between -0.34 and -0.36?

A $-\frac{17}{50}$ **B** $-\frac{9}{25}$

C $-\frac{7}{20}$ **D** $\frac{35}{100}$

4. Which value equals $-3.78 - (-2.95)$?

A -6.73 **B** -0.83

C 0.83 **D** 6.73

5. Which expression does not equal $\frac{3}{5} \times \left(-\frac{6}{7}\right)$?

A $-\frac{3}{7} \times \frac{6}{5}$ **B** $\frac{3}{-5} \times \frac{6}{7}$

C $\frac{-3}{5} \times \left(\frac{-6}{-7}\right)$ **D** $\frac{-3}{-5} \times \frac{6}{7}$

6. Which value is the best estimate for $\sqrt{1.6}$?

A 2.6 **B** 1.3

C 0.8 **D** 0.4

7. Which rational number is a non-perfect square?

A $\frac{1}{25}$ **B** 0.16

C 0.9 **D** $\frac{121}{4}$

Complete the statements in #8 and #9.

8. A square has an area of 1.44 m^2. The perimeter of the square is ■ m.

9. On a number line, you would find $-3\frac{5}{11}$ to the ■ of -3.4545.

Short Answer

10. Explain why any integer is a rational number.

11. Arrange the following in descending order.

$-1.\overline{2}$ $\quad -1.2 \quad \frac{19}{20} \quad \frac{9}{10} \quad \frac{9}{-10} \quad 0.94$

12. Identify the fractions in lowest terms that are between -2 and -3 and that have 6 as the denominator.

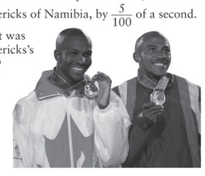
13. Calculate.

a) $1\frac{4}{5} - 2\frac{2}{3}$ **b)** $-3.21 + 1.84$

c) $\frac{5}{8} \div \left(-\frac{11}{12}\right)$ **d)** $-2\frac{5}{7}\left(-3\frac{1}{2}\right)$

e) $-3.66 \div (-1.5)$ **f)** $-\frac{5}{6} + \left(-\frac{1}{12}\right)$

14. Canada's Donovan Bailey won the gold medal in the 100-m sprint at the Summer Olympics in Atlanta in a time of 9.84 s. He beat the second-place finisher, Frankie Fredericks of Namibia, by $\frac{5}{100}$ of a second. What was Fredericks's time?



15. What is the average of a rational number and its opposite? Explain using examples in decimal or fraction form.

16. Is 31.36 a perfect square? Explain how you know.

17. Determine.

a) the number with a square root of 6.1

b) $\sqrt{0.1369}$

c) $\sqrt{7}$, to the nearest hundredth

Extended Response

18. This shape is made from ten congruent squares.

a) If the perimeter of the shape is 40 cm, what is its area?

b) If the area of the shape is 75 cm^2, what is its perimeter, to the nearest tenth of a centimetre?

19. Ron buys 75 shares in a car company. A year later, he sells the shares for $15.64 each. The result is a loss of $260.25. How much did Ron pay for each share? State any assumptions you make.

20. A Canadian quarter is made from nickel, copper, and steel. The quarter is $\frac{11}{500}$ nickel, $\frac{19}{500}$ copper, and $\frac{47}{50}$ steel.

a) Predict the sum of the three fractions. Justify your prediction.

b) Test your prediction by calculating the sum of the three fractions.

c) How many times as great is the mass of the steel as the combined mass of the nickel and the copper?

d) The mass of a Canadian quarter is 4.4 g. In a roll of 40 quarters, how much greater is the mass of copper than the mass of nickel?

Math Link: Wrap It Up!

Design a game that can be played with a partner or in a small group. The game must include

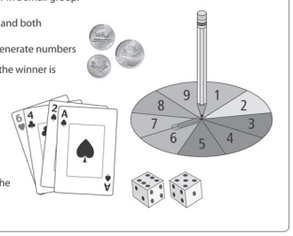
- calculations that involve at least two operations and both positive and negative rational numbers
- dice, coins, playing cards, or other materials to generate numbers

a) Describe the rules of the game, including how the winner is decided.

b) Give examples of the calculations that the game involves.

c) Play the game with a partner or in a small group.

d) Suggest alternative rules for the game. For example, you might suggest modifications to the game, such as including different operations.



***MathLinks 9*, pages 84–85**

Suggested Timing

40–50 minutes

Materials

- ruler
- grid paper
- calculator

Blackline Masters

Master 4 Number Lines
Master 8 Centimetre Grid Paper
Master 9 0.5 Centimetre Grid Paper
BLM 2–13 Chapter 2 Test

Planning Notes

Have students start the practice test by writing the question numbers in their notebook. Have them indicate which questions they need a little help with, a lot of help with, or no help with. Have students first complete the questions they know they can do. Then, have them complete the questions they know something about. Finally, have students do their best on the questions that they still need coaching with.

This practice test can be assigned as an in-class or take-home assignment. Provide students with the number of questions they can comfortably do in one class. These are the minimum questions that will meet the related curriculum outcomes: #3–9, 11, and 13–17.

Study Guide

Question(s)	Section(s)	Refer to	The student can …
#1, 2, 10	2.1	Explore Example 2	✓ compare and order rational numbers
#3, 12	2.1	Example 3	✓ identify a rational number between two given rational numbers
#4, 13	2.2	Example 1	✓ perform operations on rational numbers in decimal form
#5, 13	2.3	Example 2	✓ perform operations on rational numbers in fraction form
#6, 17, 18	2.4	Example 4	✓ determine an approximate square root of a non-perfect square rational number
#7	2.4	Example 2	✓ determine an approximate square root of a non-perfect square rational number
#8, 16, 17	2.4	Example 3	✓ determine the square root of a perfect square rational number
#9, 11	2.1	Example 1	✓ compare and order rational numbers
#14, 15, 18, 19, 20	2.2	Example 3	✓ solve problems involving rational numbers in decimal form
#14, 15, 20	2.3	Example 3	✓ solve problems involving rational numbers in fraction form
#17	2.4	Example 1	✓ determine the square root of a perfect square rational number

Answers

Chapter 2 Practice Test

1. A **2.** D **3.** C **4.** B **5.** D **6.** B **7.** C **8.** 4.8 **9.** Left

10. Example: Any integer can be written as a quotient of two integers by making the integer the dividend and the number 1 the divisor.

11. $\frac{19}{20}$, 0.94, $\frac{9}{10}$, $\frac{9}{-10}$, -1.2, $-1.\overline{2}$

12. $-2\frac{1}{6}$, $-2\frac{5}{6}$

13. a) $\frac{-13}{15}$ **b)** -1.37 **c)** $-\frac{15}{22}$ **d)** $9\frac{1}{2}$ **e)** 2.44 **f)** $-\frac{11}{12}$

14. 9.89 s

15. 0. Example: $[1.2 + (-1.2)] \div 2 = 0$

16. Yes. Example: Both 3136 and 100 are perfect squares.

17. a) 37.21 **b)** 0.37 **c)** 2.65

18. a) 62.5 cm^2 **b)** 43.8 cm

19. $19.11. Assume that all shares are the same price.

20. a) 1. Example: The sum must be 1 because no other elements make up a quarter's content.
b) 1
c) 15.6 times as great
d) 2.816 g greater

Assessment	Supporting Learning
Assessment *as* Learning	
Chapter 2 Self-Assessment Have students review their earlier responses in the What I Need to Work On section of their Foldable.	• Have students use their responses on the practice test and work they completed earlier in the chapter to identify areas in which they may need to reinforce their understanding of skills or concepts. Before the chapter test, coach them in the areas in which they are having difficulties.
Assessment *of* Learning	
Chapter 2 Test After students complete the practice test, you may wish to use **BLM 2–13 Chapter 2 Test** as a summative assessment.	• Consider allowing students to use their Foldable. • Provide students who need them with copies of **Master 4 Number Lines, Master 8 Centimetre Grid Paper**, and **Master 9 0.5 Centimetre Grid Paper** to use as they work on the questions. • Since the Wrap It Up! and Challenges provide additional reinforcement of chapter content, you may wish to have students complete these activities before doing the Chapter 2 Practice Test and **BLM 2-13 Chapter 2 Test**. • Consider using the Challenges to assess the knowledge and skills of students who have difficulty with tests.