

Lesson 5.3: Rational Equations**Explore Your Understanding Assignment**

This assignment includes multiple choice and short answer questions. For multiple choice questions, select the best answer. Each is worth 1 mark. Marks assigned to short answer questions are indicated for each question. Be sure to show all necessary work.

- ① _____ 1. The solution to the rational equation $\frac{11}{r} = \frac{7}{5} - \frac{10}{r}$ is
- A. $\frac{5}{7}$
 - B. 15
 - C. 18
 - D. There is no solution because the variables are eliminated.

- ① _____ 2. The solution to the rational equation $\frac{3x^2 + 5x - 2}{2x + 4} = -\frac{7}{2}$ is
- A. $x = -2$
 - B. $x = 2$
 - C. There is no solution because $x \neq -2$.
 - D. There is no solution because $x \neq 2$.

3. The sum of the reciprocals of two positive consecutive integers is $\frac{31}{240}$.

a. Explain what each of the expressions represents in this problem.

①

i. x

①

ii. $x + 1$

①

iii. $\frac{1}{x}$

①

iv. $\frac{1}{x + 1}$

①

v. $\frac{1}{x} + \frac{1}{x + 1}$

②

b. Solve the problem. Verify the solution.

- ③ 4. Solve the rational equation $\frac{4x}{x+1} - \frac{3x}{x-5} = \frac{-132}{x^2 - 4x - 5}$. Show all work. Verify the solution(s).

- ③ 5. Jes makes 4 pizzas on her own in 20 minutes, whereas Kyle, on his own, makes 4 pizzas in 30 minutes. How long, in minutes, does it take Jes and Kyle to make 20 pizzas when they work together?

/15

You have completed *Lesson 5.3 Explore Your Understanding Assignment*. Please proceed to the *Unit 5: Rational Expressions and Equations Final Review Assignment* on the next page of this *Workbook*.