Name: _____ Class: _____ Date: _____ ID: A

Solving Rational Equations

Solve the equation. Check the solution.

____ 1. $\frac{4}{x+1} = \frac{-1}{x+4}$

a. $-\frac{1}{5}$ b. $-\frac{17}{4}$ c. $-\frac{17}{5}$ d. -1

____ 2. $\frac{t+2}{t-2} = \frac{t+8}{t+5}$

a. -26 b. -6 c. -2 d. 2

____ 3. $\frac{4}{3g} + \frac{1}{4g} = -6$

a. $-\frac{19}{72}$ b. $-\frac{2}{9}$ c. $\frac{19}{12}$ d. $-\frac{5}{42}$

____ 4. Alicia can row 6 miles downstream in the same time it takes her to row 3 miles upstream. She rows downstream 5 miles/hour faster than she rows upstream. Find Alicia's rowing rate each way. Round your answers to the nearest tenth, if necessary.

a. 10 mi/h downstream, 5 mi/h upstream
b. 6.8 mi/h downstream, 1.8 mi/h upstream
c. 5 mi/h downstream, 10 mi/h upstream
d. 6.7 mi/h downstream, 1.7 mi/h upstream

____ 5. A group of college students are volunteering for Help the Homeless during their spring break. They are putting the finishing touches on a house they built. Working alone, Kaitlin can paint a certain room in 8 hours. Brianna can paint the same room in 6 hours. Write an equation that can be used to find how long it will take them working together to paint the room. How many hours will it take them to paint the room? If necessary, round your answer to the nearest hundredth.

a. $\frac{8}{x} + \frac{6}{x} = 1$; 7 hours
b. $\frac{8}{x} + \frac{6}{x} = 1$; 14 hours
c. $\frac{x}{8} + \frac{x}{6} = 1$; 3.43 hours
d. $\frac{x}{6} + \frac{x}{8} = 1$; 7 hours

____ 6. The sum of the reciprocals of two consecutive even integers is $\frac{11}{60}$. Write an equation that can be used to find the two integers. Find the two integers.

a. $q + (q + 2) = \frac{11}{60}$; 8 and 10

b. $\frac{1}{q} + \frac{1}{q+2} = \frac{11}{60}$; 8 and 10

c. $\frac{1}{q} + \frac{1}{q+2} = \frac{11}{60}$; 10 and 12

d. $q + (q + 2) = \frac{11}{60}$; 10 and 12

What are the solutions of the rational equation? Use a graphing calculator to solve.

____ 7. $\frac{12.3}{x + 8.5} = \frac{-2}{x - 2}$

a. –0.531 b. –2.269 c. 0.531 d. 3.331

____ 8. $\frac{3.74}{4a} + \frac{5.5}{a} = -6$

a. –3.273 b. 1.128 c. 1.073 d. –1.073

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Answer Section

1. C
2. A
3. A
4. A
5. C
6. C
7. C
8. D