

Module 9 Confirmation Test Review

Perform the indicated operations for each of the rational expressions.

$$1. \frac{n^2 - 9n + 20}{6m^7n^2} \cdot \frac{10mn^2}{5n - 20}$$

$$2. \frac{4n^3 - 25n}{3n^2 - 16n + 5} \div (10n + 25)$$

$$3. \frac{11m}{m^2 + 3m - 28} + \frac{m}{m + 7}$$

$$4. \frac{d^2 - 11}{d^2 - 7d + 12} - \frac{d + 1}{d - 4}$$

Solve the following rational equations.

$$5. \frac{5}{7} - \frac{3}{x} = \frac{1}{3}$$

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

$$7. \frac{1}{x - 7} + \frac{x}{x - 2} = \frac{5}{x^2 - 9x + 14}$$

8. Convert the following measurements to the indicated unit of measure:

- 8 yards = _____ inches
- 5690 grams = _____ kilograms
- 5 hours = _____ seconds

9. A tree casts a shadow that is 24 feet long. Casey is 5 feet tall and casts a shadow that is 3 feet long. About how tall is the tree?

10. Tennis balls are usually purchased in a tube that holds 3 balls. Each ball has a diameter of 65 millimeters. How many centimeters long is the tube?

11. A baseball weighs about 5.25 ounces. Sam purchases a box of 24 baseballs. What is the weight in pounds of the box of baseballs?

12. A road crew is able to pave 13 miles of road per month. At this rate, how many miles can be paved in a year and a half?

13. Mary has been teaching at Pellissippi State for 19 years. Over the years she has found that on average, five-eighths of her students make an A or a B in her class. If 3565 of her students made an A or B, how many students has she taught?

1. $\frac{n-5}{3m^6}$

2. $\frac{n(2n-5)}{5(3n-1)(n-5)}$

3. $\frac{m}{m-4}$

4. $\frac{2}{d-3}$

5. $x = \frac{69}{8}$

6. $x = 6$ or $x = -2$

7. $x = -1$, 7 is extraneous

8. a) 288 inches b) 5.69 kg c) 18,000 seconds

9. 40 feet

10. 19.5 cm

11. 7.875 pounds

12. 234 miles

13. 5704 students