Lesson 1-9: Divide Rational Numbers

1. Sample answer: The same rules apply. If the numbers being divided have different signs, the quotient is negative. If the numbers being divided have the same sign, the quotient is positive.

2. It is negative because a negative rational number divided by a positive rational number is a negative rational number.

3. To the left of - 4; Sample answer: The quotient will be negative. The absolute value of the quotient will be greater than the absolute value of - 4 because - 4 will be multiplied by the reciprocal of the rational number, which is a number greater than 1.

4. a. $-4\frac{1}{12}$
   b. 0.08, or $\frac{2}{25}$
   c. - 20
   d. $1\frac{3}{20}$

5. a. $-\frac{3}{14}$
   b. $-\frac{4}{15}$
   c. $-\frac{9}{16}$

6. $-\frac{5}{11}$
   $-\frac{25}{77}$

7. $-\frac{4}{5}; \frac{3}{10}$
   $-\frac{4}{5}; \frac{10}{3}$
   $-2\frac{2}{3}$

8. D

9. a. 3
   b. Sample answer: Derek may have used the reciprocal of the dividend instead of the divisor when changing the division expression to a multiplication

10. $-\frac{9}{10}$ inch/week

11. a. $-1\frac{7}{8}$
    b. - 1.875
    c. $-1\frac{7}{8}$

12. a. $-\frac{17}{18}$
    b. $-\frac{18}{17}; -1\frac{1}{17}$
    c. Sample answer: The product of the answer for Part A and the answer for Part B is 1.

13. a. $\frac{7}{13}$
    b. $1\frac{6}{7}$
    c. Sample answer: Each is the reciprocal o the other.

14. a. $-1\frac{3}{5}$
    b. $\frac{4}{25}$ mL

15. $\frac{3}{38}$

16. $\frac{1}{12}$

17. Sample answer: To rewrite the division as multiplication she needs to write the divisor as a fraction ($-\frac{10}{7}$) and then take the reciprocal of that fraction ($-\frac{7}{10}$).

18. B

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19. B, D