

5.1

Name _____ Date _____ Period _____

SCORE:

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Simplifying Rational Expressions

Simplify each rational expression.

1. $\frac{2x(4x^2-2x-1)}{2x}$

2. $\frac{(x-10)(x+2)}{x-10}$

3. $\frac{x-9}{(x-9)(x-9)}$

4. $\frac{(3x+7)(x+6)}{3x+7}$

5. $\frac{2x+7}{4x^2-49}$

6. $\frac{x^2-4}{x^2+4x+4}$

7. $\frac{x^2+16x+63}{x^2+3x-54}$

8. $\frac{2x^2-13x-7}{2x^2+21x+10}$

9.
$$\frac{(5x-2)(5x+2)}{5x^2+8x-4}$$

10.
$$\frac{3x^2+25x-18}{x^2+10x+9}$$

11.
$$\frac{x^3-1}{x-1}$$

12.
$$\frac{x+2}{x^3+8}$$

13.
$$\frac{x^2-16}{(x+4)(x^2-4x+16)}$$

14.
$$\frac{4x^2-2x+1}{8x^3+1}$$

15.
$$\frac{2r^3-4r^2-16r}{7r^3-14r^2-56r}$$

Simplify, without using a calculator.

16.
$$\frac{15}{32} \cdot \frac{12}{25}$$

17.
$$\frac{8}{9} + \frac{5}{6}$$

18.
$$-\frac{1}{6} + \frac{11}{15}$$

19.
$$\frac{10}{27} \div \frac{8}{15}$$