

4.2 Multiplying Rationals

Date _____

Simplify each expression.

1)
$$\frac{x-5}{x^2+4x-45} \cdot \frac{x^2+5x-36}{10}$$

2)
$$\frac{1}{4x} \cdot \frac{4x^2+12x}{9x^2}$$

3)
$$\frac{9n^2-27n}{n-2} \cdot \frac{n+2}{n^2-n-6}$$

4)
$$\frac{-a^2+17a-72}{7a^3-56a^2} \cdot \frac{8}{a-9}$$

5)
$$\frac{1}{a+7} \cdot \frac{4a+28}{a-8}$$

6)
$$\frac{9r-63}{r^2-16r+63} \cdot \frac{r-9}{r-10}$$

7)
$$\frac{2x}{3x+12} \cdot \frac{3x+12}{6x^2}$$

8)
$$\frac{r-9}{10-r} \cdot \frac{r^2-4r-60}{r+6}$$

$$9) \frac{6}{b^2 - 4b + 3} \cdot \frac{b^2 - 9}{8b + 24}$$

$$10) \frac{r^2 + 9r + 18}{r^2 + r - 6} \cdot \frac{r + 1}{10r + 60}$$

$$11) \frac{3b + 12}{b + 4} \cdot \frac{6b - 54}{b^2 - 14b + 45}$$

$$12) \frac{9n^2 - 63n}{56 - 8n} \cdot \frac{36}{9n}$$

$$13) \frac{-b^2 + 13b - 42}{b^2 - 13b + 42} \cdot \frac{b^2 - 10b + 21}{4b^2 - 12b}$$

$$14) \frac{4x + 40}{10x + 10} \cdot \frac{10x - 80}{80 - 2x - x^2}$$

$$15) \frac{6x - 6}{x - 1} \cdot \frac{4x^2 + 14x}{12x + 42}$$

$$16) \frac{m - 6}{-m^2 + 10m - 24} \cdot \frac{40 - 6m - m^2}{3m - 3}$$

Answers to 4.2 Multiplying Rationals

$$1) \frac{x-4}{10}$$

$$5) \frac{4}{a-8}$$

$$9) \frac{3}{4(b-1)}$$

$$13) \frac{-b+7}{4b}$$

$$2) \frac{x+3}{9x^2}$$

$$6) \frac{9}{r-10}$$

$$10) \frac{r+1}{10(r-2)}$$

$$14) -\frac{4}{x+1}$$

$$3) \frac{9n}{n-2}$$

$$7) \frac{1}{3x}$$

$$11) \frac{18}{b-5}$$

$$15) 2x$$

$$4) -\frac{8}{7a^2}$$

$$8) -r+9$$

$$12) -\frac{9}{2}$$

$$16) \frac{10+m}{3(m-1)}$$