

Simplifying Rational Expressions (Harder)

Date _____ Period _____

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Simplify each and state the excluded values.

1)
$$\frac{6x^2 - 30x + 36}{4x^2 + 22x + 28}$$

2)
$$\frac{5b^2 - 15b + 10}{6b + 60}$$

3)
$$\frac{10x^4 + 110x^3 + 180x^2}{7x^2 + 66x + 27}$$

4)
$$\frac{14k^3 + 26k^2 - 48k}{4k + 12}$$

5)
$$\frac{5x^2 - 15x + 10}{-5x^2 + 15x - 10}$$

6)
$$\frac{15v^2 + 93v + 90}{8v^3 + 24v^2 - 80v}$$

7)
$$\frac{2x^2 - 3x - 27}{4x^3 + 10x^2 - 6x}$$

8)
$$\frac{5x^2 - 13x - 6}{-4x^3 + 22x^2 - 30x}$$

9)
$$\frac{5n - 20}{8n^3 - 24n^2 - 32n}$$

10)
$$\frac{9b^2 + 27b}{8b^2 - 22b - 6}$$

11)
$$\frac{2v^2 - 29v + 90}{7v^3 - 69v^2 - 10v}$$

12)
$$\frac{10n^2 + 76n - 126}{5n^2 + 55n + 90}$$

13)
$$\frac{10r^3 - 10r^2 - 20r}{6r^2 + 6r}$$

14)
$$\frac{9v^2 + 48v + 15}{6v^3 + 34v^2 + 20v}$$

15)
$$\frac{10b^2 + 10b - 60}{3b + 9}$$

16)
$$\frac{7x^2 + 79x + 90}{2x^3 + 15x^2 - 50x}$$

17)
$$\frac{4x + 4}{14x^2 + 8x - 40}$$

18)
$$\frac{5x^2 + 14x - 3}{9x^3 + 54x^2 + 81x}$$

19)
$$\frac{21x^2 - 14x - 112}{14x^2 - 70x + 84}$$

20)
$$\frac{7b^3 - 49b^2 + 70b}{4b^2 + 10b + 4}$$