

Algebra 2 Unit 4 Homework Answers

Answers to Unit 4 Section 1 Simplifying Rational Expressions

- 1) $-\frac{k}{10}; \{0\}$
- 2) $\frac{9}{10v}; \{0\}$
- 3) $\frac{1}{x+4}; \{-5, -4\}$
- 4) $\frac{1}{n+3}; \{9, -3\}$
- 5) $\frac{9}{2(x+1)}; \{0, -1\}$
- 6) $\frac{1}{m+3}; \{-3, -2\}$
- 7) $\frac{x-7}{x+6}; \{4, -6\}$
- 8) $\frac{p-5}{3}; \{2\}$
- 9) $\frac{n-7}{n-2}; \{2, -6\}$
- 10) $\frac{8}{9b^2}; \{0, 5\}$
- 11) $\frac{(7p-6)(p+2)}{(p-2)(2p-7)}; \left\{2, \frac{7}{2}\right\}$
- 12) $\frac{5x}{3(x+2)}; \{0, -6, -2\}$
- 13) $\frac{v-4}{2(v+9)}; \{-9, -7\}$
- 14) $\frac{n-5}{n+6}; \{1, -6\}$

Answers to Unit 4 Section 2 Multiplying and Dividing Rational Expressions

- 1) $\frac{1}{5k}; \{0\}$
- 2) $3x^3; \{0\}$
- 3) $\frac{-n-3}{n+5}; \{-5, 6, 3\}$
- 4) $5; \{-6, -8\}$
- 5) $6(a+7); \{-8\}$
- 6) $\frac{n+8}{n-4}; \{4, 7, -2\}$
- 7) $\frac{a-9}{-a+3}; \{4, 3\}$
- 8) $\frac{r-1}{r+4}; \{0, -4, 3, -5\}$
- 9) $\frac{4x}{3}; \left\{\frac{3}{2}, -\frac{7}{5}\right\}$
- 10) $-\frac{9}{8x^2(x-3)}; \{10, 3, -4, 0\}$
- 11) $\frac{(n+9)(n+2)}{7}; \{6, 5\}$
- 12) $-\frac{7}{9}; \left\{\frac{2}{5}, -\frac{3}{2}, -\frac{2}{5}\right\}$
- 13) $\frac{k+9}{4}; \left\{\frac{5}{7}, -\frac{6}{7}\right\}$
- 14) $k-4; \left\{0, \frac{7}{3}, -\frac{9}{5}\right\}$
- 15) $\frac{10}{3}; \left\{-\frac{2}{7}\right\}$
- 16) $\frac{14a^2}{a-2}; \left\{\frac{8}{5}, -1, 0, 2\right\}$

Answers to Unit 4 Section 3 Adding and Subtracting Rational Expressions

- 1) $12x^4y^5z^3$
- 2) $(x-1)(x+1)(x+6)$
- 3) $(x-3)(x+2)(x-5)$
- 4) $\frac{x+2y}{9y^2}$
- 5) $\frac{4x-3y-5}{12x^2y^2}$
- 6) $\frac{11}{4}$
- 7) $\frac{3-2yx}{2x^2}$
- 8) $\frac{20v-12}{(v-3)(5v+1)}$
- 9) $\frac{5x^2+28x+2}{(x-1)(x+6)}$
- 10) $\frac{-4x+36}{(x-5)(x+3)}$
- 11) $\frac{17b-2-3b^2}{(b-1)(3b+1)}$
- 12) $\frac{11m+9}{(m-1)(m+3)}$
- 13) $\frac{x-9}{(x-1)(x-2)(x+3)}$
- 14) $\frac{2x^2-5x-7}{(x-6)(x+3)}$
- 15) $\frac{x^2-4x+2}{(x-5)(x+3)}$
- 16) $\frac{-2x^2-3x+6}{(x+2)(x-9)}$

Answers to Unit 4 Section 4 Solving Rational Expressions

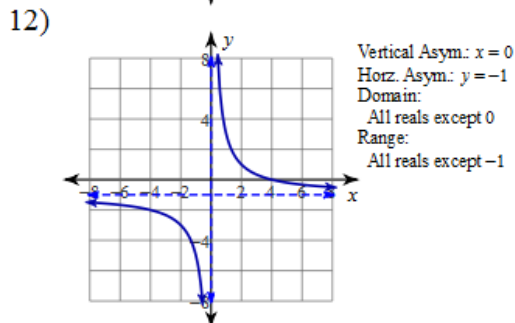
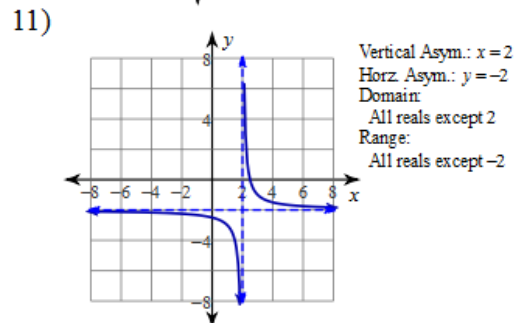
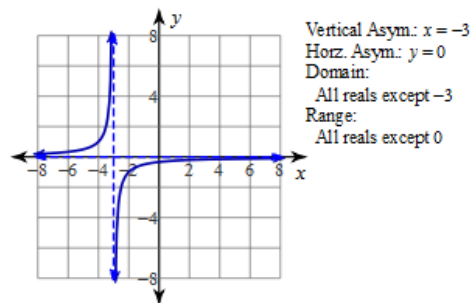
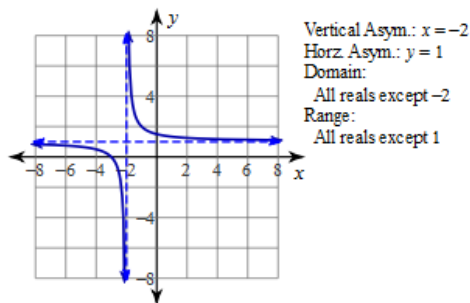
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|----------------------------------|-----------------------------------|----------------------------------|--------------------------------------|
| 1) $\{-2\}$ | 2) $\left\{\frac{17}{3}\right\}$ | 3) $\left\{-\frac{4}{3}\right\}$ | 4) $\{6, -1\}$ |
| 5) $\{4, 3\}$ | 6) $\{1\}$ | 7) $\{-3\}$ | 8) $\left\{-\frac{31}{4}\right\}$ |
| 9) $\left\{\frac{1}{3}\right\}$ | 10) $\left\{-\frac{7}{2}\right\}$ | 11) $\{0\}$ | 12) $\left\{\frac{9}{2}\right\}$ |
| 13) $\left\{\frac{5}{3}\right\}$ | 14) $\{8, 7\}$ | 15) $\{-1, 8\}$ | 16) $\left\{\frac{4}{3}, -3\right\}$ |

Answers to Unit 4 Section 5 Application Problems Involving Rational Equations

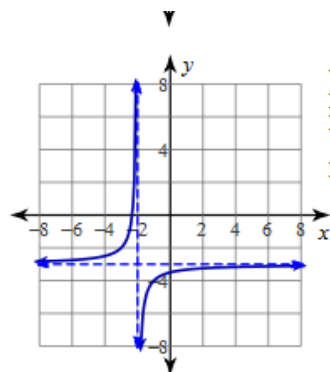
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|---------------|----------------|---------------|---------------|
| 1) 10 minutes | 2) 15 weeks | 3) 4.24 hours | 4) 7.24 hours |
| 5) 8.75 miles | 6) 10 km | 7) 36 km | 8) 30 members |
| 9) 20 members | 10) 25 members | 11) 68.6 mi/h | 12) 60 mi/h |

Answers to Unit 4 Section 6 Graphing Rational Expressions

- | | | |
|--|--|--|
| 1) H. Tran: Left 5 | 2) H. Tran: Right 3 | 3) Vert. Reflection; H. Tran: Left 2 |
| 4) Vert. Reflection; V. Stretch by 4 | 5) H. Tran: Right 7; V. Tran: Down 2 | 6) Vert. Reflection; H. Tran: Right 1; V. Tran: Up 2 |
| 7) H. Tran: Left 3; V. Tran: Down 5; V. Stretch by 3 | 8) Vert. Reflection; H. Tran: Left 6; V. Tran: Up 3; V. Stretch by 2 | 9) |

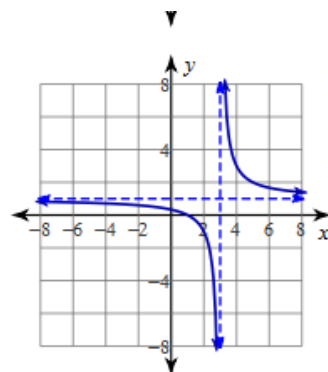


13)



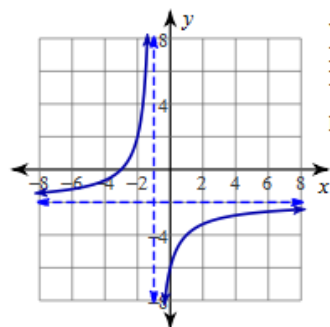
Vertical Asym.: $x = -2$
 Horz. Asym.: $y = -3$
 Domain:
 All reals except -2
 Range:
 All reals except -3

14)



Vertical Asym.: $x = 3$
 Horz. Asym.: $y = 1$
 Domain:
 All reals except 3
 Range:
 All reals except 1

15)



Vertical Asym.: $x = -1$
 Horz. Asym.: $y = -2$
 Domain:
 All reals except -1
 Range:
 All reals except -2