

Algebra Review

Unit 1: Conversions and Things

P 1-1 98.1	P 1-2 9284.40	P 1-3 343	P 1-4 .0346
Convert the fraction to decimal (round to 3 decimal places)			
P 1-5 .4	P 1-6 .667	P 1-7 5.5	P 1-8 .028

Decimals → Fraction

P 1-9 $\frac{17}{50}$	P 1-10 $\frac{1}{5}$	P 1-11 $\frac{491}{50000}$	P 1-12 $\frac{547}{5000}$
------------------------------	-----------------------------	-----------------------------------	----------------------------------

Improper Fraction → Mixed Number

P 1-13 $3\frac{3}{7}$	P 1-14 $1\frac{4}{5}$	P 1-15 $41\frac{2}{3}$	P 1-16 $20\frac{3}{5}$
------------------------------	------------------------------	-------------------------------	-------------------------------

Mixed Numbers → Improper Fraction

P 1-17 $\frac{23}{7}$	P 1-18 $\frac{25}{14}$	P 1-19 $\frac{51}{6}$	P 1-20 $\frac{37}{10}$
------------------------------	-------------------------------	------------------------------	-------------------------------

Decimal → Percent

P 1-21 34.56%	P 1-22 5.18%	P 1-23 235%	P 1-24 10054%
----------------------	---------------------	--------------------	----------------------

Percent → Decimal

P 1-25 .245	P 1-26 .269	P 1-27 1.42	P 1-28 003
--------------------	--------------------	--------------------	-------------------

Exponents

P 1-29 27	P 1-30 64	P 1-31 $\frac{1}{25}$	P 1-32 1
P 1-33 $\frac{1}{32}$	P 1-34 343	P 1-35 729	P 1-36 100,000,000

Unit 2: Absolutely Crazy

P 2-1 0

P 2-2 -5

P 2-3 $-\frac{1}{2}$

P 2-4 addition of the addition inverse

P 2-5 8

P 2-6 12

P 2-7 -3

P 2-8 16

P 2-9 5

P 2-10 21

Multiplication

P 2-11 $\frac{1}{5}$

P 2-12 2

P 2-13 25

P 2-14 -5

P 2-15 20

P 2-16 84

P 2-17 21

Matrices

Simplify the following:

P 2-18 $\begin{bmatrix} 13 & 5 \\ 7 & 11 \end{bmatrix}$

P 2-19 not possible

P 2-20 $\begin{bmatrix} -9 & -9 & -2 \\ -8 & 7 & -5 \\ -4 & 0 & 19 \end{bmatrix}$

P 2-21 $\begin{bmatrix} -3 & -7 \\ 0 & 26 \end{bmatrix}$

Distributive property

P 2-22 60

P 2-23 40

P 2-24 $4x+40$

P 2-25 $10x^2 - 50x$

P 2-26 $-12x - 21$

P 2-27 25

P 2-28 $14x - 65$

Unit 3: Fractured Fun

P 3-1 $\frac{37}{12}$

P 3-2 $-\frac{19}{12}$

P 3-3 $\frac{7}{4}$

P 3-4 $\frac{9}{28}$

P 3-5 $\frac{59}{8}$

P 3-6 $-\frac{53}{8}$

P 3-7 $\frac{21}{8}$

P 3-8 $\frac{3}{56}$

P 3-9 $\frac{69}{52}$

P 3-10 $\frac{50}{27}$

P 3-11 $\frac{19}{33}$

Unit 4: Single Transformation

P 4-1 $x = 6$

P 4-2 $x = 53$

P 4-3 $x = 6$

P 4-4 $r = 30$

P 4-5 $x = 13$

P 4-6 $x = 15$

P 4-7 $b = \frac{9}{2}$

P 4-8 $x = \frac{10}{9}$

P 4-9 $x = \frac{7}{5}$

P 4-10 $x = 13$

P 4-11 $x = 6 - a$

P 4-12 $x = b + d$

P 4-13 $m = 14 / 3$

P 4-14 $p = 45$

P 4-15 $x = 12/5$

P 4-16 $x = \frac{35}{12}$

P 4-17 $x = \frac{35}{32}$

P 4-18 $w = \frac{1}{12}$

P 4-19 $x = kt$

P 4-20 $x = \frac{4}{a}$

P 4-21 $x = \frac{p}{b}$

P 4-22 $x = \frac{15}{2}$

Unit 5: Solving Equation complications

P 5-1 $x = -\frac{1}{2}$

P 5-4 $x = \frac{13}{28}$

P 5-7 $x = 11$

P 5-10 $x = -\frac{13}{2}$

P 5-13 $x = \frac{a+5}{9}$ or $\frac{1}{9}a + \frac{5}{9}$

P 5-16 $x = -10$

P 5-19 $x = 1$

P 5-2 $x = -\frac{11}{3}$

P 5-5 $a = 4$

P 5-8 $x = \frac{14}{5}$

P 5-11 $x = -\frac{9}{5}$

P 5-14 $x = -6$

P 5-17 $x = -\frac{102}{13}$

P 5-20 $x = 2$

P 5-3 $x = \frac{3}{7}$

P 5-6 $x = -\frac{251}{110}$

P 5-9 $x = -\frac{5}{2}$

P 5-12 $x = \frac{a-6}{3}$ or $\frac{1}{3}a - 2$

P 5-15 $x = -\frac{48}{19}$

P 5-18 $x = \frac{32}{5}$

Unit 6: Decimals and graphs

P 6-1 $x = 2$

P 6-2 $x = \frac{103}{3}$

P 6-3 $x = \frac{167}{4}$

P 6-4 $x = \frac{23}{20}$

P 6-5 $x = \frac{35}{3}$

P 6-6 $x = 391$

Unit 7: Graphing

P 7-1 (0,9)

P 7-2 (0,-8)

P 7-3 (0,1/2)

P 7-4 (0,.8)

Unit 8: Graphing Continued: Intercepts and absolute value

P 8-1 x int (4/9,0) y int (0,-4)

P 8-2 x int (4,0) y-int (0,40)

P 8-3 x int (9,0) y int (0,3)

P 8-4 x int (-15/7,0) y int (0,15/2)

P 8-5 x int (4,0) y int (0,12/7)

P 8-6 x int (3,0) y int (0,-6)

P 8-7 x int (-2,0) y int (0,20)

P 8-8 x int (12,0) y int (0,4)

P 8-9 x int (4,0) y int (0,-16/5)

P 8-10 x int (7,0) y int (0, 7/4)

P 8-11 vertex (6,1)

P 8-12 vertex (2,7)

P 8-13 vertex (1,1)

P 8-14 vertex (0,0)

P 8-15 vertex (-9,0)

P 8-16 vertex (0,9)

Unit 9 : Finding the Equation

$$P 9-1 \quad y = 5x + 3$$

$$P 9-2 \quad y = -3x + 9$$

$$P 9-3 \quad y = \frac{4}{3}x + 2$$

$$P 9-4 \quad y = -\frac{3}{2}x + \frac{4}{3}$$

$$P 9-5 \quad y = 6x - 23$$

$$P 9-6 \quad y = -8x + 53$$

$$P 9-7 \quad y = -14x + 36$$

$$P 9-8 \quad y = \frac{1}{3}x + \frac{7}{3}$$

$$P 9-10 \quad y = -\frac{2}{3}x + \frac{32}{3}$$

$$P 9-11 \quad y = \frac{4}{5}x - \frac{11}{5}$$

$$P 9-12 \quad y = \frac{9}{16}x + \frac{93}{16}$$

$$P 9-13 \quad y = -\frac{1}{4}x + \frac{9}{2}$$

$$P 9-14 \quad y = -\frac{5}{4}x + 7$$

$$P 9-15 \quad y = \frac{13}{8}x$$

$$P 9-16 \quad y = \frac{40}{7}x + \frac{24}{7}$$

$$P 9-17 \quad y = \frac{85}{18}x - \frac{73}{36}$$

Unit 10: Solving Inequalities

P 10-1 $x < -1$

P 10-2 $x > 3$

P 10-3 $x < -1/2$

P 10-4 $x < 28/5$

P 10-5 $x > \frac{9}{4}$

P 10-6 $x < 11$

P 10-7 $x < -2$

P 10-8 $x > 19/2$

P 10-9 $x < \frac{7}{2}$

P 10-10 $x > -7/6$

P 10-11 $-1/6 < x$

P 10-12 $x > \frac{15}{18}$

P 10-13 $x \leq -228$

Unit 11: More Inequalities & Absolute Value

Draw a number line to represent each of the following and if possible write a single inequality to represent the same set

P 11-1 $x < 2$ (only less than 2 is both less than 2 and less than 9)

P 11-2 $x > 5$ or $x < -2$

P 11-3 $x < 9$

P 11-4 $8 < x < 12$

P 11-5 $x < 9$

P 11-6 $x < -5$ or $x > 0$

Solve – give both a number line and an inequality answer

P 11-7 $-8 < x < 12$

P 11-8 $1/2 < x < 9/4$

P 11-9 $3/2 < x < 19/6$

P 11-10 $-5 < x < 4$

P 11-11 All real (any absolute value is greater than a negative)

P 11-12 $x < -2/3$ or $x > 2/3$

P 11-13 $x < -19/30$ or $x > 29/30$

P 11-14 $-22/3 < x < 4/3$

P 11-15 all real

Unit 12: Solving Systems of Equations

part 1

Solve by substitution

- P 12-1 (4,9)
 - P 12-2 (3,0)
 - P 12-3 (-3,1)
 - P 12-4 ($\frac{50}{17}$, $\frac{46}{17}$)
 - P 12-5 ($\frac{11}{2}$, 12)
 - P 12-6 (1, 1)
 - P 12-7 (2, 2)
 - P 12-8 (3, -4)
 - P 12-9 ($\frac{5}{2}$, $\frac{5}{4}$)
 - P 12-10 (1, -1)
 - P 12-11 ($\frac{67}{35}$, $-\frac{31}{21}$)
-

Unit 13: More on Solving Systems of Equations

- P 13-1 (3,1)
 - P 13-2 (3,4)
 - P 13-3 (1,7)
 - P 13-4 ($\frac{16}{15}$, $\frac{19}{5}$)
 - P 13-5 (1,-1)
 - P 13-6 ($\frac{3}{23}$, $\frac{16}{207}$)
 - P 13-7 (13,4)
 - P 13-8 ($\frac{28}{29}$, $-\frac{19}{87}$)
 - P 13-9 ($\frac{61}{109}$, $-\frac{376}{327}$)
-

Unit 14: Solving Even More Systems

P 14-1 (6, 5)

P 14-2 (1, 5/2)

P 14-3 $5x + 6y = 14$ (same line)

P 14-4 $\left(\frac{38}{31}, \frac{56}{31}\right)$

P 14-5 no solution

P 14-6 (0, 5)

P 14-7 (2, -1)

P 14-8 (-2, -1)

Unit 15: Exponents

P 15-1 x^{15}

P 15-2 $8x^6$

P 15-3 $\frac{5^{28}x^{28}y^{42}}{z^{14}}$

P 15-4 $\frac{5}{x^3}$

P 15-5 $\frac{4x^2m^2p^4}{7}$

P 15-6 $\frac{36x^3y}{z^7}$

P 15-7 $\frac{125x^3}{64d^6w^9}$

P 15-8 $x^{28}y^{24}$

P 15-9 $\frac{5x^2}{4y^4}$

P 15-10 $\frac{15xz^2}{y^5w^{11}}$

P 15-11 $\frac{4}{7x^8z^3}$