Worksheet	Topic
1	Order of operations, combining like terms
2	Solving linear equations
3	Finding slope between two points
4	Solving linear equations
5	Multiplying binomials
6	Practice with exponents
7	Finding mean, median
8	Finding residuals and root mean square error
9	Writing equations of lines from descriptions
10	Factoring out common factor
11	Solving equations for other variables
12	Solving systems of linear equations
13	Practice with function notation
14	Writing equations of lines from descriptions
15	Finding residuals and root mean square error
16	Solving systems of equations by elimination
17	Multiplying binomials
18	Factoring binomials
19	Squaring binomials
20	Log properties
21	Practice with exponents
22	Solving quadratic equations
23	Finding residuals and root mean square error
24	Practice with exponents and logs
25	Practice with radicals
26	Writing equations of lines and other functions from descriptions
27	Solving proportions and linear equations with variables on both sides
28	Solving quadratic equations
29	Completing the square

Weekly Practice #1 Due _____ Name _____

Rewrite each expression by combining like terms.

1. $3x + 2(x + 5)$

2. $4 + 2x + 3(2x - 1)$

3. $7 + 5x - (3x + 2)$

4. $8 - 3(x + 4)$

5. $2 - 3x - 4(5x - 6)$

6. $2(x + 1) + 3(2x - 4)$

7. $6(2x + 3) - 3(4x - 1)$

8. $6 + 2(x - 1)$

9. $4 - 3x - (5 - 2x)$

10. $x + 2(5 + x)$

11. $x - 1 - (1 - x)$

12. $2 + 2(x + 2(x + 2))$

13. $5(2+ x) + 2(x - 3)$

14. $3 + x - (2 - x)$

15. $10 - 2(3x + 1)$

16. $5 - 5(x + 1)$

17. $7 - 3x + 2(3x - 4)$

18. $3 + 4(5 - x)$

Weekly Practice #2 Due _____ Name _____

Solve each equation. Express each answer as an integer or fraction. No decimals please. Show your work.

1. $7x - 3 = 39$

2. $3 + 4x = 27$

3. $2 + 5x = 7 - 3x$

4. $5 - 6x = 2 + 7x$

5. $2(x - 3) + 7 = 4(x + 1) - 2$

6. $3 + 2x = 7 - 6x$

7. $3x + 6 = 4(x - 2) + 11$

8. $2(x + 3) - 6 = 5x + 1$

9. $\frac{2}{3}(x-6)+1=5$

10. $-\frac{3}{2}(x+4)-3=7$

11. $\frac{1}{2}(x-8)+4=\frac{3}{4}(x+2)-1$

12. $4-\frac{2}{3}(4x-9)=11$

13. $2-\frac{1}{3}x=10$

14. $5+\frac{3}{5}x=6-\frac{2}{3}x$

Weekly Practice #3 Due _____ Name _____

Find the slope of the line between each pair of points. Express your answers as integers or fractions. No decimals please.

1. (2, 7), (3, 12)

2. (–2, 6), (5, 11)

3. (5, 11), (–3, –6)

4. (0, 1), (7, 1)

5. (5, –2), (–4, 8)

6. (2, 7), (11, –3)

7. (7, 3), (7, 8)

8. (5, 9), (0, 6)

9. $(a, 2)$ $(5a, 7)$

10. $(6, b)$, $(10, 7b)$

11. (a, b), $(3a, 5b)$

12. (a, b), (c, d)

Weekly Practice #4 Due _____ Name _____

Solve each equation. Express each answer as an integer or fraction. No decimals please. Show your work.

1. $3x - 7 = 4 + 6x$

2. $4 + 2(x - 3) = 8x + 6$

3. $5 - (x + 3) = 2(x + 1)$

4. $6x + 7 = 4 - 3(2x - 1)$

5. $4(x + 1) + 6 - 3 - 2(x + 1) = 11$

6. $3 - 8(x + 2) = 9$

7. $12 - 2(x + 3) - 4(3x + 6) = 19$

8. $3(x + 1) = 2x - (4 - x)$

9. $3 + 2(x - 6) + 5 - 3(x + 4) = 6x$

10. $4(x + 3) = 5x$

11. $3x = 2 + 6x - (5 - 2x)$

12. $x + 1 - (1 - x) = x$

Weekly Practice #5 Due _____ Name _____

Multiply and combine like terms.

1. $(x + 3)(x + 5)$

2. $(x + 6)(x + 2)$

3. $(x + 6)(x – 3)$

4. $(x + 5)(x – 2)$

5. $(x – 7)(x + 3)$

6. $(x – 4)(x + 2)$

7. $(x – 4)(x – 3)$

8. $(x – 5)(x – 6)$

9. $(2x + 3)(x + 1)$

10. $(3x + 4)(x – 3)$

11. $(2x – 5)(x + 3)$

12. $(3x + 4)(3x – 4)$

13. $2(x + 5)(x – 3)$

14. $–3(x – 1)(x + 4)$

15. $(x + 7)(x – 7)$

16. $(x + 5)(x + 5)$

17. $(3x + 2)(3x + 2)$

18. $(2x + 5)(2x – 5)$

Weekly Practice #6 Due _____ Name _____

Rewrite using properties of exponents so that the variable occurs only once.

1. $x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x \cdot x$

2. $t \cdot t \cdot t \cdot t \cdot t$

3. $x \cdot x \cdot x \cdot x \cdot y \cdot y \cdot y$

4. $2x \cdot x \cdot x \cdot y \cdot y$

5. $x^2 \cdot x \cdot x \cdot x$

6. $3x^4 \cdot x^2$

7. $2x^3 \cdot x^5$

8. $4x^3 \cdot x^2$

9. $3x^2 \cdot 4x^2$

10. $-2x^3 \cdot 5x^4$

11. $\dfrac{x^7}{x^4}$

12. $\dfrac{x^5}{x}$

13. $\dfrac{5x^3}{x^2}$

14. $\dfrac{12x^8}{6x^3}$

15. $\dfrac{18x^9}{-3x^4}$

16. $\dfrac{11x^5}{2x^3}$

Weekly Practice #7 Due _____ Name _

1. Find the mean of the set {2, 5, 7, 8, 13, 21}.

2. Find the median of the set {2, 5, 7, 8, 13, 21}.

3. Find the mean of the set {3, 6, 8, 12, 17, 19, 22, 25, 29}.

4. Find the median of the set {3, 6, 8, 12, 17, 19, 22, 25, 29}.

5. Find the mean of the set {–3.4, 2.7, 6.1, 3.2, –5.8}.

6. Find the median of the set {–3.4, 2.7, 6.1, 3.2, –5.8}.

7. Find the median of the set {2.6, 2.8, 2.5, 3.2, 3.6, 3.5}.

8. Find the median of the set {5.6, 5.9, 6.3, 6.2, 7.0}.

9. Find the median of the set {1.5, 2.3, 2.1, 2.7, 3.6, 3.5, 2.9}.

10. Find the median of the set {–5.3, –2.1, –4.3, –3.2, –1.6, –2.7}.

Weekly Practice #8 Due _____ Name _____

Write an equation for each line described. Your answer may be in either slope-intercept form or in point-slope form.

1. The line through (2, 7) and (5, 16).

2. The line with slope 2/3 that passes through the point (0, 5).

3. The line with *y*-intercept 5 and slope –3.

4. The line with *y*-intercept –2 and *x*-intercept 3. (*Hint*: Plot the points and find the slope.)

5. The line through (–2, 6) and (4, –3).

6. The line with slope –1/3 that passes through the point (4, 7).

7. The line with *y*-intercept –1 and slope 3/4.

8. The line with *x*-intercept 5 and slope 1/4.

Weekly Practice #9 Due _____ Name _____

1. Find the residual for the data point (2, 5) with the model $y = 3.4x - 1.5$.

2. Find the residual for the data point (–1, –7) with the model $y = 2.4x - 4.8$.

3. Complete the table for the model $y = 1.5x + 4.7$.

x	y	residual
1	6.1	
3	9.3	
4	10.5	
6	13.4	
8	17.2	
9	18.0	

4. What is the root mean square error for the data and model in Problem 3?

Weekly Practice #10 Due _____ Name _

Factor each expression.

1. $2x + 10$

2. $3x - 12$

3. $6x - 20$

4. $8x - 14$

5. $4x + 6y + 10$

6. $3x + 6y - 12$

7. $15x - 5$

8. $12x + 3$

9. $21x + 7y + 14$

10. $6x - 24y + 6$

Weekly Practice #11 Due _____ Name _____

Solve each equation for the requested variable.

1. Solve for x: $3x + 4y = 12$

2. Solve for y: $3x + 4y = 12$

3. Solve for x: $2x - 5y = 7$

4. Solve for y: $2x - 5y = 7$

5. Solve for t: $x = 2t + 4$

6. Solve for t: $y = 3t - 6$

7. Solve for w: $bw = A$

8. Solve for b: $2b + 2w = P$

Weekly Practice #12 Due _____ Name _

Solve each system.

1. $\begin{cases} y = -2x + 4 \\ y = 3x - 11 \end{cases}$

2. $\begin{cases} y = 2x + 3 \\ y = 3x - 5 \end{cases}$

3. $\begin{cases} y = -2x + 5 \\ y = x + 56 \end{cases}$

4. $\begin{cases} y = 3x - 7 \\ y = 6x - 79 \end{cases}$

5. $\begin{cases} x + y = 7 \\ y = x - 1 \end{cases}$

6. $\begin{cases} x + y = 5 \\ y = x + 1 \end{cases}$

7. $\begin{cases} x + y = 7 \\ x - y = 3 \end{cases}$

8. $\begin{cases} x + y = 1980 \\ x + 2y = 375 \end{cases}$

Weekly Practice #13 Due _____ Name _____

Use the given functions to evaluate each expression.

$f(x) = x^2 + 1$ $g(x) = 3x - 2$

1. $f(3)$

2. $g(1)$

3. $f(-2)$

4. $g(-4)$

5. $3f(5)$

6. $4g(-1)$

7. $f(x) + 4$

8. $g(t)$

9. $f(h)$

10. $g(2x)$

Weekly Practice #14 Due _____ Name _____

Write an equation for each line described. Your answer may be in either slope-intercept form or in point-slope form.

1. The line through (2, 7) and (3, 12).

2. The line through (–1, 6) with slope 2/3.

3. The line with *y*-intercept 4 and slope 13/14.

4. The line through (–2, 5) and (6, 11).

5. The line with *x*-intercept 4 and *y*-intercept 3. (*Hint:* Plot the points and find the slope.)

6. The line with slope –3/4 passing through (1, –5).

7. The line with *y*-intercept 3 and slope –7/23.

8. The line with *x*-intercept 2 and slope 3/4.

Weekly Practice #15 Due _____ Name _

1. Find the residual for the data point (3, 7) with the model $y = -2.5x + 14.8$.

2. Find the residual for the data point (2, –3) with the model $y = 2.9x - 7.6$.

3. Complete the table for the model $y = -3.1x + 6.4$.

x	y	residual
1	3.2	
2	–0.1	
3	–3.5	
5	–9.3	
7	–15.6	
10	–24.2	

4. What is the root mean square error for the data and model in Problem 3?

Weekly Practice #16 Due _____ Name _____

Solve each system by elimination.

1. $\begin{aligned} 3x + y &= 7 \\ 4x - y &= 7 \end{aligned}$

2. $\begin{aligned} 2x + 3y &= 18 \\ 4x - y &= 8 \end{aligned}$

3. $\begin{aligned} 4x + 5y &= 7 \\ 2x + 3y &= 3 \end{aligned}$

4. $\begin{aligned} 3x - 7y &= 1 \\ 4x + 2y &= 24 \end{aligned}$

5. $\begin{aligned} x + 5y &= 11 \\ -3x + 2y &= 1 \end{aligned}$

6. $\begin{aligned} x - 8y &= -21 \\ 4x + 3y &= -14 \end{aligned}$

Weekly Practice #17 Due _____ Name _____

Multiply and combine like terms.

1. $(x + 2)(x + 4)$

2. $(x + 5)(x + 1)$

3. $(x - 4)(x - 7)$

4. $(x - 3)(x - 6)$

5. $(x + 4)(x - 5)$

6. $(x - 3)(x + 8)$

7. $(x + 3)(x - 3)$

8. $(x + 5)(x - 5)$

9. $(x + 10)(x - 10)$

10. $(x + 7)(x - 7)$

11. $(x + 6)(x - 3)$

12. $(x + 2)(x - 3)$

13. $(x + 1)(x - 1)$

14. $(x - 4)(x + 4)$

Weekly Practice #18 Due _____ Name _____

Factor each into two binomials.

1. $x^2 + 6x + 8$

2. $x^2 + 10x + 21$

3. $x^2 + 11x + 24$

4. $x^2 + 7x + 10$

5. $x^2 - 9x + 8$

6. $x^2 - 13x + 12$

7. $x^2 - 3x - 10$

8. $x^2 - 7x - 8$

9. $x^2 + 4x - 12$

10. $x^2 + 8x - 20$

11. $x^2 - 9$

12. $x^2 - 25$

13. $x^2 - 16$

14. $x^2 - 1$

Weekly Practice #19 Due _____ Name _____

Expand each and combine like terms.

1. $(x+3)^2$

2. $(x+4)^2$

3. $(x+1)^2$

4. $(x+5)^2$

5. $(x-1)^2$

6. $(x-6)^2$

7. $(x-3)^2$

8. $(x-2)^2$

9. $(x+10)^2$

10. $(x-7)^2$

Weekly Practice #20 Due _____ Name _____

Rewrite each using properties of logarithms.

1. $\log 5 + \log 2$

2. $\log 3 + \log 4$

3. $\log 15 - \log 3$

4. $\log 6 - \log 2$

5. $\log x^3$

6. $\log x^4$

7. $2\log 3$

8. $3\log 2$

9. $\frac{1}{2}\log 25$

10. $\frac{1}{2}\log 49$

Weekly Practice #21 Due _____ Name _____

Rewrite with positive exponents.

1. x^{-2}

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

Rewrite in radical form. Your answers should not include any negative exponents.

3. $x^{1/2}$

4. $x^{2/3}$

5. $x^{-1/2}$

6. $x^{-3/5}$

Rewrite without fractions. Negative exponents are allowed in your answer.

7. $\frac{x^3}{x^{-4}}$

8. $\frac{x^{-2}}{x^4}$

9. $\frac{1}{x^{2/3}}$

10. $\frac{2}{x^{-1/3}}$

Weekly Practice #22 Due _____ Name _____

Solve each equation. Leave your answer in exact form.

1. $x^2 = 7$

2. $(x-2)^2 = 11$

3. $(x+3)^2 = 5$

4. $3(x-4)^2 = 15$

5. $(x-2)(x+3) = 0$

6. $(x+5)(x+4) = 0$

7. $x^2 - 1x - 20 = 0$

8. $x^2 + 5x - 6 = 0$

9. $2x^2 + 7x + 2 = 0$

10. $3x^2 - 5x - 2 = 0$

Weekly Practice #23 Due _____ Name _____

1. Find the residual for the data point (3, 7) with the model $y = 0.8(2)^x$.

2. Find the residual for the data point (2, –3) with the model $y = -1.3(1.5)^x$.

3. Complete the table for the model $y = 2.8(4.7)^x$.

x	y	residual
1	27.5	
1.5	28.2	
1.8	44.9	
2.1	72.8	
2.3	98.6	
2.4	114.5	

4. What is the root mean square error for the data and model in Problem 3?

Weekly Practice #24 Due _____ Name _____

Solve each equation.

1. $x^3 = 8$

2. $3^x = 8$

3. $\log x = 4$

4. $\sqrt[5]{x^3} = 3$

5. $\log(3x) = 2$

6. $x^{-3} = 5$

7. $4^x = 47$

8. $20(1.05)^x = 52$

Weekly Practice #25 Due _____ Name _____

Multiply or divide, if so indicated, and write each answer so that there are no perfect square factors inside the radical.

1. $\sqrt{12}$

2. $\sqrt{18}$

3. $\sqrt{6} \cdot \sqrt{15}$

4. $\sqrt{10} \cdot \sqrt{2}$

5. $\dfrac{\sqrt{24}}{\sqrt{3}}$

6. $\dfrac{\sqrt{3}}{\sqrt{12}}$

7. $\sqrt{5} \cdot \dfrac{\sqrt{3}}{6}$

8. $\sqrt{2} \cdot \dfrac{\sqrt{14}}{7}$

Weekly Practice #26 Due _____ Name _____

Write the equation for each function described. Your equations may be in "$y =$" form or in transformation form.

1. A line with slope $\frac{2}{3}$ that passes through the point (4, 7).

2. A parabola that has been translated horizontally 3, translated vertically 4, and dilated vertically by a factor of 2.

3. A parabola that has been translated horizontally –2, translated vertically 5, dilated horizontally by a factor of 3, and dilated vertically by a factor of –4.

4. A square root curve that has been translated horizontally 7, translated vertically –2, and dilated horizontally by a factor of –3.

5. A circle that has been translated horizontally –6 and dilated horizontally by a factor of 3.

6. A circle that has been translated horizontally 5, translated vertically –3, and dilated vertically by a factor of 2.

Weekly Practice #27 Due _____ Name _____

Solve each equation, showing all of your steps.

1. $\frac{3}{x} = \frac{12}{5}$

2. $\frac{x}{8} = \frac{7}{11}$

3. $\frac{x+1}{5} = \frac{9}{10}$

4. $\frac{2x-5}{6} = \frac{-4}{5}$

5. $\frac{3x+4}{5} = \frac{x-1}{2}$

6. $\frac{4x+2}{x-3} = \frac{3}{8}$

7. $4x = x + 9$

8. $3x - 7 = 6 - 2x$

9. $3 + 8x = 2(x - 5) + 12$

10. $3 + 2(4x - 1) = 6 - x$

Weekly Practice #28 Due _____ Name _____

Solve each equation using the most efficient method possible.

1. $(x-4)^2+2=11$

2. $(x+3)^2-5=11$

3. $(x+3)(x-7)=0$

4. $(x+2)(3x-4)=0$

5. $4x^2+3x-7=0$

6. $6x^2-5x+10=0$

7. $2x^2-4x=8$

8. $3x^2+5x=7$

Weekly Practice #29 Due _____ Name _____

1. Complete the square to convert from general form to vertex form:

$y = x^2 + 6x + 3$

2. Complete the square to convert from general form to vertex form:

$y = x^2 - 8x + 7$

3. Complete the square to solve the equation.

$x^2 + 10x = 11$

4. Complete the square to solve the equation.

$x^2 - 12x = -9$