

ALGEBRA REVIEW #17

NAME \_\_\_\_\_

Copy the expression or equation on lined paper; then show your steps.

1. Solve for n: a)  $E = \frac{180}{n}$       b)  $S = (n - 2)180$       1.  $\left\{ \begin{array}{l} \text{a.} \text{-----} \\ \text{b.} \text{-----} \end{array} \right.$

2. Use  $D = \frac{(n - 2)}{n}180$  to find the number, n, of sides      2. \_\_\_\_\_  
of a regular polygon where each interior angle, D, measures  $176^\circ$ .

3. Factor completely:  $3x^2y + 6xy^2 - 12xy$       3. \_\_\_\_\_

4. Solve to the nearest hundredth:  $6x^2 + 20x + 5 = 0$       4. \_\_\_\_\_

5. Solve:  $\frac{\sqrt{x}}{3} + 2 = 8$       5. \_\_\_\_\_

6. Multiply and simplify:  $\left( \frac{3x + y}{5} \right)^2$       6. \_\_\_\_\_

7. Divide:  $\frac{30x^2y^3z}{6ab^{-5}} \div \frac{5xyz}{2a^2b}$       7. \_\_\_\_\_

8. Simplify: a)  $2x(3x + 1) - x(2 - x)$       b)  $(3x - 2)^2$       8a. \_\_\_\_\_

8b. \_\_\_\_\_

9. Multiply: a)  $(3\sqrt{2})^2$       b)  $(3 + \sqrt{2})^2$       9a. \_\_\_\_\_

9b. \_\_\_\_\_

10. For  $2x = 3y + 9$  find  $\left\{ \begin{array}{l} \text{a. x-int.} \\ \text{b. y-int.} \\ \text{c. slope} \end{array} \right.$       10.  $\left\{ \begin{array}{l} \text{a.} \text{-----} \\ \text{b.} \text{-----} \\ \text{c.} \text{-----} \end{array} \right.$

11. Write an equation of a line through the origin      11. \_\_\_\_\_  
and parallel to the line  $10^3 x = 7.5 \times 10^8 - 10^3 y$ .

12. One day 4 plumbers and 5 helpers earned \$350.      12. \_\_\_\_\_

At the same rate of pay, 5 plumbers and 6 helpers \_\_\_\_\_  
earned \$430. How much does each plumber and helper earn?

13. Add: a)  $\frac{3}{x} + \frac{2}{y}$       b)  $\frac{3}{x} + \frac{2}{x + y}$       13.  $\left\{ \begin{array}{l} \text{a.} \text{-----} \\ \text{b.} \text{-----} \end{array} \right.$

14. Simplify: a)  $\left( \frac{4x^{-3}}{8x} \right)^2$       b)  $\left( \frac{4x^3}{8x} \right)^{-2}$       14.  $\left\{ \begin{array}{l} \text{a.} \text{-----} \\ \text{b.} \text{-----} \end{array} \right.$

ALGEBRA REVIEW #18

NAME \_\_\_\_\_

Copy the expression or equation on lined paper; then show your steps.

1. Solve for n:  $D = \frac{n - 2}{n} 180$  1. \_\_\_\_\_

2. Use  $S = 4\pi r^2$  to find the surface area of a spherical raindrop with a diameter of 0.25 inch. 2. \_\_\_\_\_

3. Factor completely:  $20x^2 - 9x - 18$  3. \_\_\_\_\_

4. Solve to the nearest hundredth:  $6x + 1 = 2x^2$  4. \_\_\_\_\_

5. Solve:  $\sqrt{2x - 1} + 1 = 5$  5. \_\_\_\_\_

6. Multiply and simplify:  $\left(\frac{x^2 - 9}{x + 2}\right)\left(\frac{x + 4}{x + 3}\right)$  6. \_\_\_\_\_

7. Divide:  $\frac{x^2 + 9}{x + 2} \div \frac{3x + 9}{3x + 6}$  7. \_\_\_\_\_

8. Simplify: a)  $x^2y(3x + 2y - 1)$  b)  $x(x - 3)(x + 2)$  8a. \_\_\_\_\_  
8b. \_\_\_\_\_

9. Simplify: a)  $(3\sqrt{2})(2\sqrt{2})$  9a. \_\_\_\_\_  
b)  $3\sqrt{2} + 2\sqrt{2} + \sqrt{50}$  9b. \_\_\_\_\_

10. Sketch the graph of  $5x - 7y = 10$  10. on the back

11. At what point does the line  $3x - 2y = 6$  intersect the line  $x + 5y = 6$ ? 11. \_\_\_\_\_

12. Kate invested \$35000, part at 8% and part at 5%. Her annual income from the 8% part was \$450 less than her income from the 5% part. Find the amount invested at each rate. 12. \_\_\_\_\_

13. Add: a)  $\frac{3}{x} + \frac{1}{2x}$  b)  $\frac{3}{x} + \frac{1}{2 + x}$  13. { a. \_\_\_\_\_  
b. \_\_\_\_\_

14. Simplify: a)  $5x^2(2x^{-2})^2$  b)  $5x^2(2x^{-2})^{-2}$  14a. \_\_\_\_\_  
14b. \_\_\_\_\_

ALGEBRA REVIEW #19

NAME \_\_\_\_\_

Copy the expression or equation on lined paper; then show your steps.

1. Solve for B:  $A = \frac{h(B + b)}{2}$  1. \_\_\_\_\_

2. The surface of a tin can is  $S = \pi r^2 + 2\pi r$ . Find the radius of a tin can that has a surface area of  $8\pi$  sq in. 2. \_\_\_\_\_

3. Factor completely:  $18x^2 - 2$  3. \_\_\_\_\_

4. Solve:  $x^2 + \frac{7}{3}x = 2$  4. \_\_\_\_\_

5. Solve:  $\sqrt{\frac{x}{2} - 5} - 1 = 11$  5. \_\_\_\_\_

6. Multiply:  $\left(\frac{2x}{3}\right)^2 \left(\frac{x+2}{3}\right)$  6. \_\_\_\_\_

7. Divide:  $\left(\frac{2+x}{3}\right)^2 \div \frac{x+2}{3}$  7. \_\_\_\_\_

8. Simplify: a)  $x + (x + 1)^2$  8a. \_\_\_\_\_  
 b)  $3x^2 - (3x - 1)(x + 2)$  8b. \_\_\_\_\_

9. Simplify: a)  $\sqrt{5}(5\sqrt{5})$  b)  $\sqrt{5}(5 + \sqrt{5})$  9a. \_\_\_\_\_  
 9b. \_\_\_\_\_

10. Sketch the line  $y = \frac{x}{2} + \frac{2}{3}$  10. on the back

11. Write an equation of the line through the points (-1, 1) and (1, 3). 11. \_\_\_\_\_

12. A manager bought 4 bats and 9 balls for \$33.75. 12. \_\_\_\_\_  
 Later he bought 3 bats and 12 balls at the same prices and paid \$34.50. What was the price of each bat and ball? \_\_\_\_\_

13. Add: a)  $\frac{1}{2x} + \frac{1}{3y}$  b)  $\frac{1}{2x} + \frac{1}{3x^2}$  13. { a. \_\_\_\_\_  
 b. \_\_\_\_\_

14. Simplify: a)  $(3x)^2(3x)^{-2}$  b)  $(3x)^{200}(3x)^{-201}$  14. { a. \_\_\_\_\_  
 b. \_\_\_\_\_

