

Geometry– Summer Assignment

Name _____

The following are some of the algebraic skills that you should review. Show all work for each problem. Answers without supporting work will not receive credit. Write your answers on the lines provided.

Solve each of the following equations.

1. $3y - 4 = 20$

2. $3r - (2r + 1) = 21$

3. $\frac{1}{2}(16 - 2h) = 11$

1. _____

2. _____

3. _____

4. $\frac{1}{4}y + 27 = 41$

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

4. _____

5. _____

Simplify each of the following. Leave answer in simplest radical form.

6. $\sqrt{48}$

7. $\sqrt{72}$

8. $\sqrt{80}$

6. _____

7. _____

8. _____

9. $\sqrt{18} + \sqrt{108} + \sqrt{50}$

10. $2\sqrt{20} - 3\sqrt{24} - \sqrt{180}$

11. $3\sqrt{27} + 5\sqrt{48}$

9. _____

10. _____

11. _____

12. $(\sqrt{3x})^2$

13. $(2\sqrt{5})^2$

14. $\sqrt{\frac{80}{6}}$

12. _____

13. _____

14. _____

Equations of Lines15. Write an equation of the line that is parallel to $y = -3x + 1$ and passes through the point $(4, 2)$.

15. _____

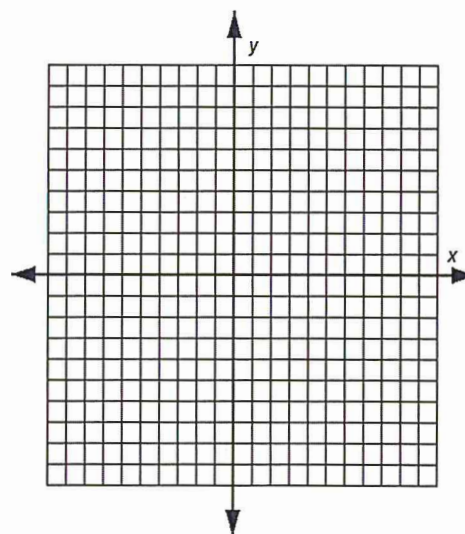
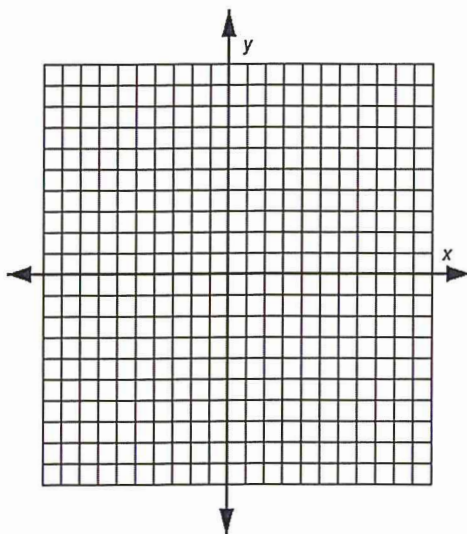
16. Write an equation of the line that is perpendicular to $y = \frac{2}{3}x - 7$ and passes through the point $(4, 1)$.

16. _____

17. Graph the following lines.

a. $2x + 6y = 12$

b. $-3x + 5y = 10$



18. Write the equation of the line \overleftrightarrow{AB} that passes through the following points:

a. A (-2, 4) B(5, 6)

18a. _____

b. A(-3, -4) B (2, 8)

18b. _____

19. Expand:

a. $(2x - 3)^2$

b. $(1 - y)^2$

19a. _____

19b. _____

20. Factor:

a. $x^2 - 4$

b. $9x^2 - 1$

20a. _____

20b. _____

Solve the following quadratic equations by factoring.

21. $x^2 - 5x - 24 = 0$

21. _____

22. $r^2 + 7r - 18 = 0$

22. _____

Solve the following system of equations.

23. $x - 3y = 3$
 $2x + 9y = 11$

24. $x - 2y = 5$
 $3x - 5y = 8$

25. $3x + y = 2$
 $4x - 2y = 1$

23. _____

24. _____

25. _____

26. Solve the following proportions.

a. $\frac{y}{18} = \frac{150}{126}$

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

26a. _____

26b. _____

Translate each to an equation or system of equations and solve. Show all work. Define your variables. Be sure to answer the question that the problem is asking.

27. There were 200 tickets sold for a football game. Tickets were \$1.50 for students and \$3 for adults. The total amount collected was \$495. How many of each type of ticket were sold?

27. _____

28. The ratio of boys to girls in a school is 4:5. If there are 125 girls, what is the total number of students in this school?

28. _____

29. The square of a number minus twice the number is 48. Find the number.

29. _____