Math 3 Review Assignment **Name**_____

In problems 1-4, solve the equation for x.

1. $4x + 5 = -3$

2. $5x + 7 = 3x + 15$

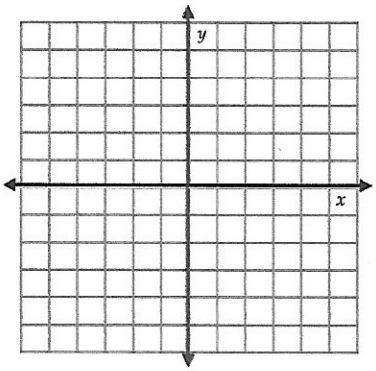
3. $3(x + 2) = 2(10 - x) + 11$

4. $|3x + 4| = 8$

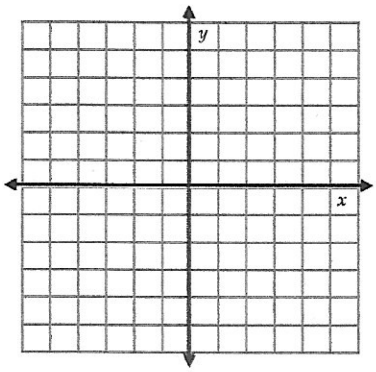
5. The shape of a dome can be modeled by the equation $h = -2d^2 + 100$ where h is the height (in feet) of the dome from the floor d feet from its center. How far from the center of the dome is the height 50 feet?

6. A taxicab charges \$0.10 per mile and a flat fee of \$3.00. Write an equation to model the price y of an x-mile long cab ride.

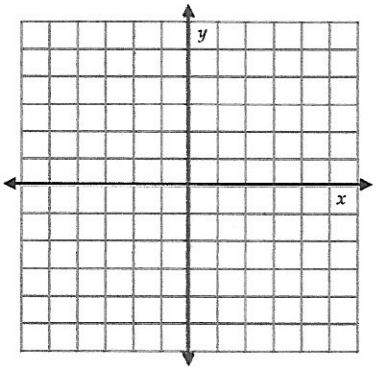
7. Graph $y = -3x + 2$



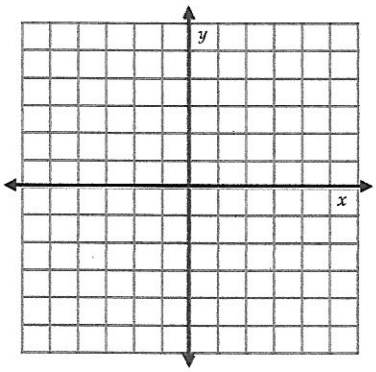
8. Graph $2x - y = 6$



9. Graph $y = 3|x + 2|$



10. Graph $y = (x + 2)^2 - 3$



11. If $f(x) = 7x^2 + 5$, compute $f(3)$.

Solve the systems of equations using any method.

12. $2x + 2y = 8$

    $3x + y = 10$

13. $3x + 2y = 8$

    $y = 3x + 1$

14. Simplify $(3x^2)^5$

15. Simplify $\frac{3x^2}{18x^7}$

16. Subtract: $(3x^2 + 5x - 7) - (x^2 - 2x + 1)$

17. Multiply: $(3x - 5)(2x + 7)$

18. Square the binomial: $(2x + 3)^2$

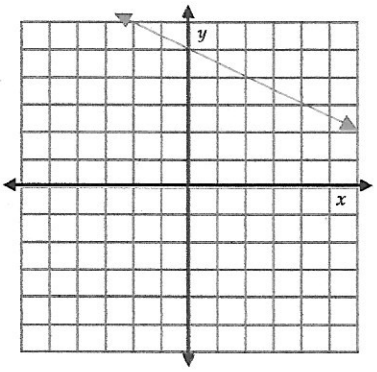
19. Factor: $x^2 + 8x - 20$

20. Solve: $3x^2 + 5x - 12 = 0$

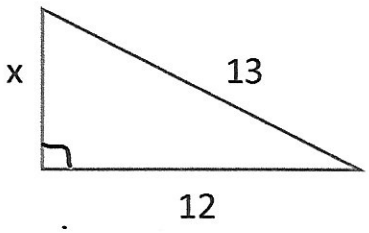
21. Solve the literal equation for x.

    $3y = 3x + 1$

22. Write the equation of the line.



23. Solve for x.



Use the two-way table that shows the results of a blood test used to detect a certain disease for a sample of patients.

24. Determine the probability that the blood test will detect the disease, if you have the disease.

25. What is the probability that you have the disease, if your blood test reports a positive result?

	Positive Result	Negative Result
Disease Present	103	15
Disease Not Present	17	207