Review for Math 2 Unit 5 Test You will need lined paper and graph paper. Show all work on the lined paper/ graph paper.

Graph the following:

1.  $y = \frac{1}{4} \ge -5$ 2.  $y = -3 \ge -1$ 3.  $j(x) = \frac{1}{2} (x - 4)^2 + 1$ 4.  $g(x) = (x + 1)^2 - 3$ 5. y = |x + 3| + 56. y = -2 |x - 4| + 3Factor the following:<br/>7.  $x^2 + 5x - 14$ 8.  $3x^2 + 13x - 10$ 9.  $x^2 - 10x + 16$ Solve using the given method:

10. quadratic formula	11. using square roots	12. completing the square
$x^2 + 3x - 7 = 0$	$3(x + 1)^2 = 75$	$x^2 - 12x = 13$

Simplify:

Evaluate:

21. Find the probability that the sum when you roll two six-sided dice is 5 or 10.

22. List the sample space when you toss a coin and then pick a marble from a bag with 1 red and 2 green marbles.

23. You draw one card from a standard deck of playing cards. What is the probability that the card is a diamond?

24. You roll two 6-sided dice. Find the probabilities:

a. P (sum is 3) b. P (sum is at least 9)

25. There are several kittens in a box: 5 orange, 4 yellow, and 11 purple kittens. Find the probability that you select an orange kitten and then another orange kitten:

- a. When you replace the first kitten b. You do not replace the first kitten.
- 26. You draw two cards from a standard deck. What is the probability that both are Kings:
  - a. With replacement b. Without replacement

27. Complete the marginal frequencies, then use the two-way table to determine the following probabilities:

		Pet	
		Yes	No
Job	Yes	74	13
	No	153	32

a. What is the probability that pet owners have a job?

b. What Is the probability that all those surveyed have a job and own a pet?

c. What is the probability that those with a job do not own a pet?

28. You draw one card from a standard deck. What is the probability that your card is a queen or a red card?

29. You roll one 6-sided dice. What is the probability that you roll a 2 or a number less than 5?

30. In a survey of 20 people, 7 people said they prefer apples, 8 said they prefer bananas, and 3 people like both fruits. What is the probability that a randomly selected student prefers apples or bananas?