

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. $y = \frac{1}{4}x - 5$

2. $y = -3x - 1$

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

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

5. $y = |x + 3| + 5$

6. $y = -2|x - 4| + 3$

Factor the following:

7. $x^2 + 5x - 14$

8. $3x^2 + 13x - 10$

9. $x^2 - 10x + 16$

Solve using the given method:

10. quadratic formula

$$x^2 + 3x - 7 = 0$$

11. using square roots

$$3(x + 1)^2 = 75$$

12. completing the square

$$x^2 - 12x = 13$$

Simplify:

Evaluate:

13. $(y^0 x^{-3} w^4)^3$

14. $(\sqrt[4]{81})^2$

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. $P(\text{sum is } 3)$

b. $P(\text{sum is at least } 9)$

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?