

Study Guide 2018-2019 End of Year Exam

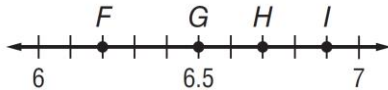
1. The average distance from the Earth to the moon is about 384,000 kilometers. What is this number written in scientific notation?

2. **SHORT ANSWER** Marc is finding the product of the monomials $3c^2d^4$ and $-4c^3d$. His work is shown below. What error did he make?

Marc

$$\begin{aligned}
 & 3c^2d^4(-4c^3d) \\
 &= 3(-4)(c^2c^3)(d^4d) \\
 &= -12c^6d^4
 \end{aligned}$$

3. Which point on the number line shows $\sqrt{45}$?

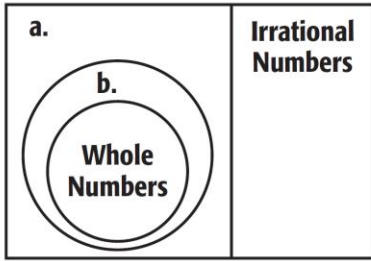


4. A moving company charges \$40 plus \$0.25 per mile to rent a van. Another company charges \$25 plus \$0.35 per mile to rent the same van. For what number of miles will the rental cost be the same for both companies?

5. A taxicab service charges \$3.75 plus \$0.40 per mile. Molly takes a taxicab from the hotel to the airport. If the total charge was \$10.95, write an equation that could be used to determine the number of miles from the hotel to the airport?

6. What value is equivalent to 4^{-3} ?

7. **SHORT ANSWER** The Venn diagram shows the real number system. Write the names of the missing sets of numbers.



8. What is a rational number? Give 4 examples

9. The school marching band has 36 members. The band director wants to arrange the band members into a square formation. How many band members should be in each row?

10. Write an expression that is equivalent to the expression below?

$$a \cdot a \cdot a \cdot b \cdot a \cdot b \cdot b \cdot a \cdot b \cdot a$$

11. What is the solution to the equation below?

$$-\frac{2}{3}p + \frac{1}{6} = \frac{7}{10}$$

12. Solve the equation below for t .

$$3t - 5 = -21 + t$$

13. The distance from the Sun to Earth is about 1.5×10^{11} meters. Suppose light travels at a speed of 3×10^8 meters per second. About how long does it take light from the Sun to reach Earth?

14. What is the value of b in the equation below?

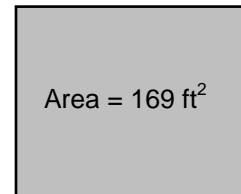
$$4(b - 1) = 2b + 10$$

15. The table shows the populations of several states. What is the population of Ohio and California written in scientific notation?

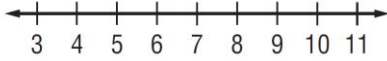
State	Population
Georgia	9,400,000
Illinois	12,900,000
Ohio	11,500,000
California	36,900,000

16. **SHORT ANSWER** What is the result when the monomial $-5x^3y^2z$ is raised to the third power?

17. The area of a square living room is 169 square feet. What is the perimeter of the room?



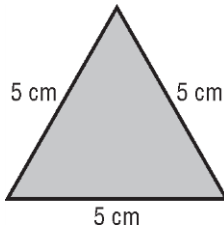
18. Between which two integers does $\sqrt{88}$ lie on the number line?



19. What symbol results in a true number sentence when placed in the blank?

$$\sqrt{12.96} \text{ ____ } 3\frac{3}{5}$$

20. **SHORT ANSWER** The area of an equilateral triangle is given by the expression $\frac{s^2\sqrt{3}}{4}$, where s is the side length of the triangle. What is the area of triangle below? Round to the nearest tenth.



21. In scientific notation, how do you know when the number is of lesser value?

22. Which equation shows the following relationship?

Seven less than four times a number is equal to 5.

23. Which equation is equivalent to the equation below?

$$5(n + 6) = 2(n - 3) + 4$$

24. SHORT ANSWER Juanita has saved \$65 for vacation. She plans to save an additional \$5 per week. How many weeks will it take for Juanita to save a total of \$125? Write and solve an equation.

25. What is the solution to the system of equations below?

$$\begin{aligned} 3x - 2y &= 7 \\ -3x + 5y &= 5 \end{aligned}$$

26. What are the slope and y-intercept of the linear equation below?

$$y = -5x + 2$$

27. What is the slope of the line that passes through $M(-6, 1)$ and $N(2, 5)$?

28. SHORT ANSWER Find the x - and y -intercepts of the linear equation below.

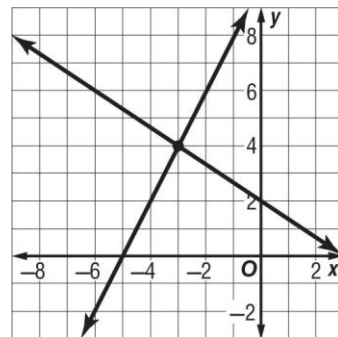
$$4x - 5y = 20$$

29. What is the domain of the function shown in the table?

x	-4	-2	0	2	4
y	-3	7	5	0	-1

30. How can you tell a relation is *not* a function?

31. What is the solution to the system of linear equations shown below?



32. SHORT ANSWER What is the equation in slope-intercept form of the line that passes through $(-2, 17)$ and $(3, -13)$?

33. What are the x - and y -intercepts of the linear equation below?

$$6x - 2y = 12$$

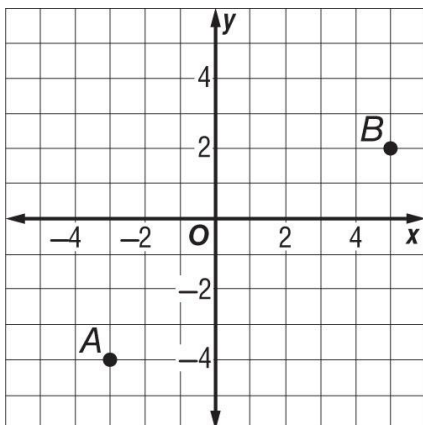
34. The slope of a line is $\frac{1}{5}$ and the y-intercept is (0, 6). What is the equation of the line in slope-intercept form?

35. What is the constant rate of change of the function represented in the table below?

x	y
-5	23
-1	7
3	-9
7	-25

36. **SHORT ANSWER** Alfonso leans a 20-foot long ladder against a wall with the base of the ladder 6 feet from the wall. How far up the wall does the ladder reach? Round to the nearest tenth if necessary.

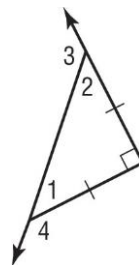
37. What is the distance between points A and B shown on the coordinate plane?



38. What are the rules for reflection, rotation, and translation?

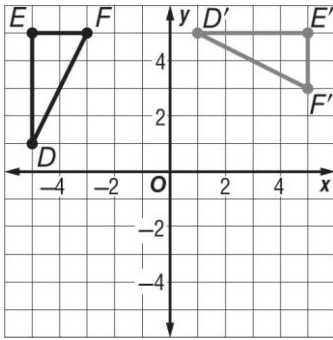
39. If point $H(-6, 2)$ is translated 4 units up and 3 units right, what are the coordinates of the translated image?

40. What is the measure of angle 3?

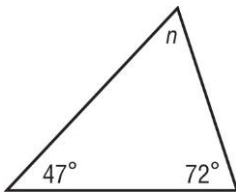


41. What is the approximate distance between points $W(-4, 1)$ and $Z(3, 7)$? Round to the nearest tenth.

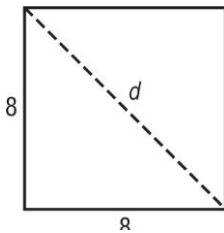
42. Which rotation best describes the transformation shown below?



43. What is the value of n in the triangle below?

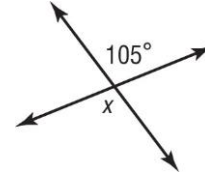


44. **SHORT ANSWER** What is the length of the diagonal of a square with 8-foot sides? Round to the nearest tenth.



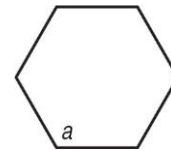
45. The legs of a right triangle measure 7 units and 24 units. What is the measure of the hypotenuse? Round to the nearest tenth if necessary.

47. What is the value of x in the figure below?



48. Mary enlarged a 4- by 6-inch photo to a 10- by 15-inch photo. What is the scale factor of the dilation?

49. What is the measure of an interior angle of a regular hexagon?



NAME _____ DATE _____ PERIOD _____