

## CTJan27 Online Year 7 Mathematics - Review Test

1. If  $\frac{m}{p} = \frac{2}{3}$ , what can you conclude?
  - a.  $3m = 2p$
  - b.  $2m = 3p$
  - c.  $mp = 6$
  - d.  $m + p = 5$
2. Choose the number that is irrational.
  - a.  $\sqrt{123}$
  - b.  $\frac{88}{41}$
  - c.  $\sqrt{49}$
  - d.  $\frac{23}{69}$
3. The number of children at the library was 3 times the number of adults. The total number of people at the library was 48. How many children were at the library?
  - a. 12
  - b. 24
  - c. 32
  - d. 36
4. Sarah babysat 7 times as many hours during summer break as she did during spring break. She babysat a total of 56 hours during both breaks. How many hours did Sara babysit during spring break?
  - a. 49 hours
  - b. 9 hours
  - c. 8 hours
  - d. 7 hours
5. Kim is 3 times as old as her cousin. The total of their ages is 36 years. How old is Kim's cousin?
  - a. 9 years old
  - b. 12 years old
  - c. 27 years old
  - d. 33 years old
6. Which of the following is least?
  - a.  $5 \times 10^{-2}$
  - b.  $5 \times 10^{-1}$
  - c.  $5 \times 10^1$
  - d.  $5 \times 10^2$
7. Pi ( $\pi$ ) has a(n) \_\_\_\_\_ number of decimal digits and these decimal digits \_\_\_\_\_ repeating pattern.
  - a. finite; have no
  - b. finite; have a
  - c. infinite; have no
  - d. infinite; have a

8. Rewrite the expression in simpler form.

$$4^3 \cdot 4^8$$

- a.  $16^{11}$
- b.  $4^{24}$
- c.  $16^{24}$
- d.  $4^{11}$

9. Evaluate the following:

$$(50^2 - 8^2 \times 6^2) \div 4 \underline{\hspace{1cm}}$$

10. Evaluate.

$$-4 + [6 - (-2 + 4)^2]$$

- a. 24
- b. -2
- c. 16
- d. 26

11.  $2 \times \left( \frac{1}{2} - 4 + \frac{8}{3} \right)$

- a.  $-\frac{5}{3}$
- b.  $-\frac{1}{3}$
- c.  $-\frac{28}{3}$
- d.  $\frac{4}{3}$

12. Evaluate.

$$2 + 3(9 - 7)^2$$

- a. 14
- b. 20
- c. 38
- d. 100

13. Find the LCM of 100, 200, and 24.

14. Which is the prime factorization of 540?

- a.  $2^2 \times 3^3 \times 5$
- b.  $45 \times 2 \times 5$
- c.  $2 \times 3 \times 9 \times 10$
- d.  $6 \times 9 \times 10$

15.  $9\frac{3}{4} - 3\frac{1}{4} =$

- a. 6
- b.  $6\frac{1}{2}$
- c.  $6\frac{1}{4}$
- d. 13

16. The ratio of apples to oranges in a store is 8 apples for every 40 oranges. What is the ratio of apples to oranges in simplest form?

- a. 8 to 40
- b. 4:20
- c. 2:10
- d. 1:5

17. The 7th grade class in our school has 120 boys and 200 girls. What is the ratio of boys to girls in the 7th grade in a simplified form?

- a. 60:100
- b. 6 to 10
- c. 3:5
- d. 12:20

18. Express 0.125 as a fraction in simplest form.

- a. 125/1000
- b. 25/100
- c. 1/8
- d. 7/40

19. Multiply.  $\frac{8}{7} \times \frac{1}{18}$

- a.  $\frac{4}{63}$
- b.  $\frac{25}{126}$
- c.  $\frac{8}{126}$
- d.  $\frac{55}{126}$
- e. None of the above.

20. Combine like terms.

$$3x - 2y + 4z - x + 5y + z$$

- a. Cannot be simplified
- b.  $2x + 3y + 5z$
- c.  $12x + 7y + 4z$
- d.  $2x - 3y + 5z$

21. Expand.

$$4(5x + 3)$$

- a.  $20x + 7$
- b.  $20x + 1$
- c.  $20x - 1$
- d.  $20x + 12$

22. Simplify.  $-2(3x + 6)$

- a.  $-6x - 12$
- b.  $-6x + 12$
- c.  $-18x$
- d.  $6x - 12$

23. Jameek rented a moving van for one day at a rate of \$30 per day plus \$0.25 per mile. Which of the following equations can he use to calculate  $c$ , the cost, in dollars, of renting the van for one day and driving it  $m$  miles?

- a.  $c = 55m$
- b.  $c = 30.25m$
- c.  $c = 30 + 0.25m$
- d.  $c = 0.25 + 30m$

24. Matthew has \$10 and he needs to buy some apples. Which of these equations would represent Matthew's situation if the apples cost \$1.35/apple and he wanted to find out how many apples he could buy,  $x$ ?

- a.  $10(1.35) = x$
- b.  $10 - x = 1.35$
- c.  $1.35 + 10 = x$
- d.  $10 = 1.35x$

25. Solve for  $x$ .

$$2x + 3 = 17$$

- a.  $x=7$
- b.  $x=8$
- c.  $x=9$
- d.  $x=10$

26.  $9 = \frac{x}{2} + 2$

- a.  $x = 9$
- b.  $x = 14$
- c.  $x = 4$
- d.  $x = 2$

27. What is the slope of a line that passes through the points (3,5) and (2,1)?

- a. -4
- b. 4
- c.  $1/4$
- d.  $-1/4$

28.  $y = \frac{7}{3}x + 5$

If  $x$  is -9, then what is  $y$ ?

- a. 2.333...
- b. -21
- c. -16
- d. -66

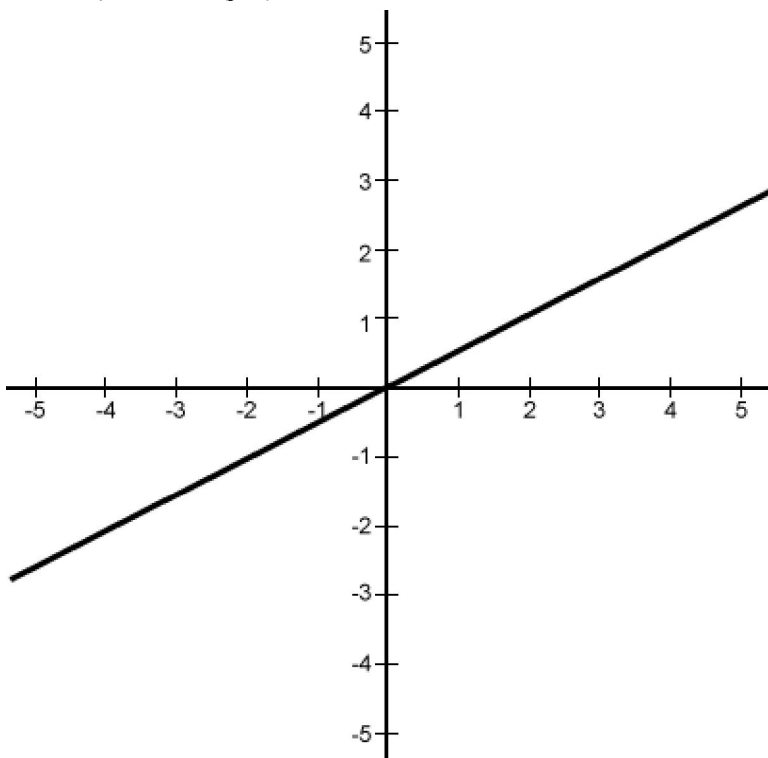
29. What is the slope when the rise is -10 and the run is 2?

- a. -8
- b. -12
- c. -5
- d.  $-5/2$
- e.  $2/-10$

30. A garden hose is used to fill a swimming pool. In 15 minutes, 195 gallons of water is added to the pool and this rate (gallons per minute) remains constant. If this information was graphed, what would be the slope of the graph?

- a.  $\frac{15}{195}$
- b. 13
- c.  $\frac{1}{13}$
- d.  $\frac{39}{3}$

31. The slope of this graph is



- a. equal to 1.
- b. greater than 1.
- c. less than 1.
- d. negative.

32. A teacher grades 5 tests in 30 minutes. If a graph was made to show the number of tests per hour that the teacher can grade, what would be the slope of the graph?

- a. 6
- b.  $\frac{1}{6}$
- c. 60
- d. 10

33. Solve:

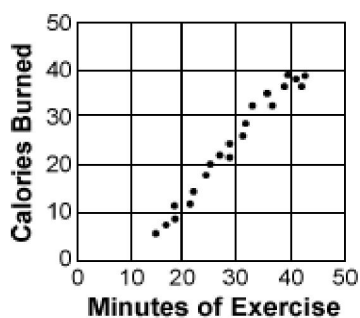
$$\frac{2x + 3}{4} = \frac{x}{4}$$

- a.  $x = -3$
- b.  $x = 1$
- c.  $x = -1$
- d.  $x = 3$

34. What is the slope of the line with an equation of  $y = -\frac{1}{2}x + 5$ ?

- a. 5
- b.  $-1/2$
- c.  $1/2$
- d. -5

35. The scatter plot shows what type of correlation?

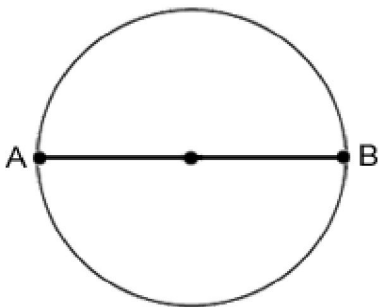


- a. low positive correlation
- b. low negative correlation
- c. high positive correlation
- d. high negative correlation
- e. no correlation

36. Given the following amounts of rainfall, in inches: 36, 28, 38, 28, 30, 20, 35, 94, 37, 29. Find the mode of the data.

- a. No mode
- b. 28 in
- c. 32.5 in
- d. 94 in

37. For a school report, Ferdinand contacted a car dealership to collect data on recent sales. He asked, "What color do buyers choose most often for their car?" White was the response. What statistical measure does the response "white" represent?
- Mean
  - Median
  - Mode
  - Range
  - Interquartile range
38. Jasmine is part of a bowling league and wants to beat the team record of an average score of 240 out of 300 possible points per game. Her scores for the first five games are 252, 227, 210, 198, and 242. What must Jasmine score in her sixth game to beat the team record for average points per game?
- 228
  - 238
  - 242
  - 273
  - The average is not achievable.
39. How many degrees are there in a triangle?
- 90
  - 360
  - 45
  - 180
40. Line AB is what part of a circle?

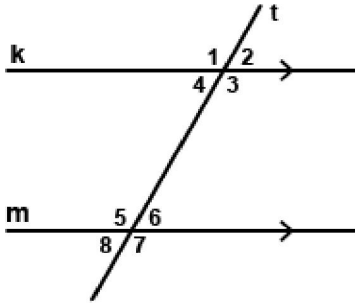


- circumference
  - radius
  - diameter
  - area
41. The point (8, 1) is reflected across the y-axis. What is its image?
- (1, 8)
  - (8, -1)
  - (-8, 1)
  - (-8, -1)
42. Which of the following is not a Pythagorean triple?
- (5, 12, 13)
  - (6, 14, 15)
  - (25, 60, 65)
  - (50, 120, 130)

43. A cubic centimeter is a unit for measuring

- a. length.
- b. volume.
- c. mass.
- d. density.

44. Which set of angles is an example of corresponding angles?

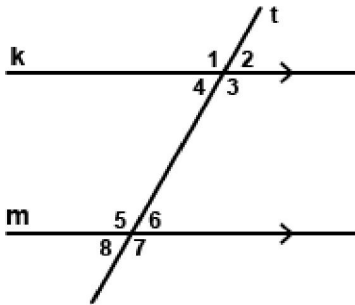


- a.  $\angle 1$  and  $\angle 2$
- b.  $\angle 4$  and  $\angle 5$
- c.  $\angle 6$  and  $\angle 8$
- d.  $\angle 3$  and  $\angle 7$

45. A figure is moved 4 units to the right and down 3 units. What type of transformation is this?

- a. Reflection
- b. Translation
- c. Dilation
- d. Rotation

46. In the figure, if angle 1 is  $100^\circ$ , what is the measure of angle 5?

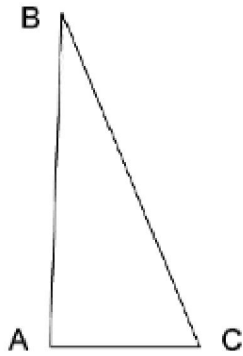


- a.  $80^\circ$
- b.  $100^\circ$
- c.  $110^\circ$
- d.  $140^\circ$

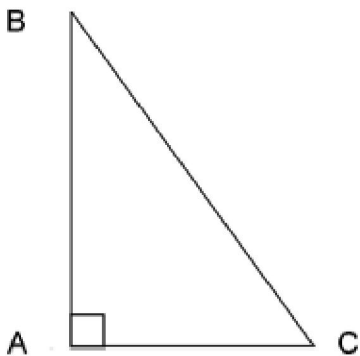
47. What is the volume of a cylinder with a radius of 6 cm and a height of 10 cm? Use  $\pi = 3.14$ .

- a.  $1130.4 \text{ cm}^3$
- b.  $1130 \text{ cm}^3$
- c.  $360.8 \text{ cm}^3$
- d.  $600 \text{ cm}^3$

48. Look at the triangle. If angle ACB is 55 degrees and angle BAC is a 85 degrees, how many degrees are in angle ABC?

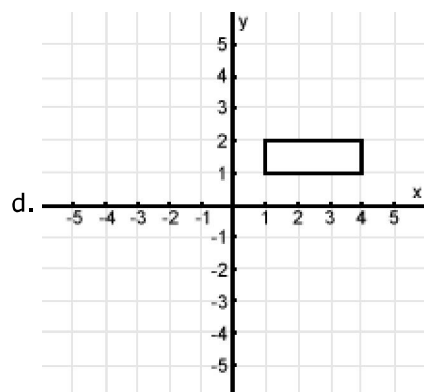
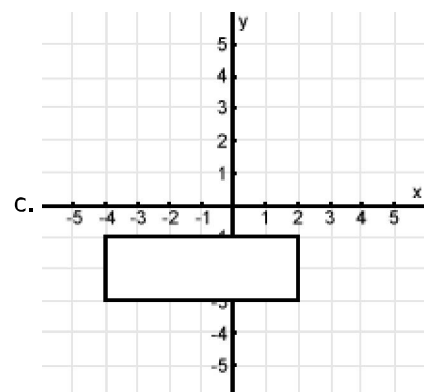
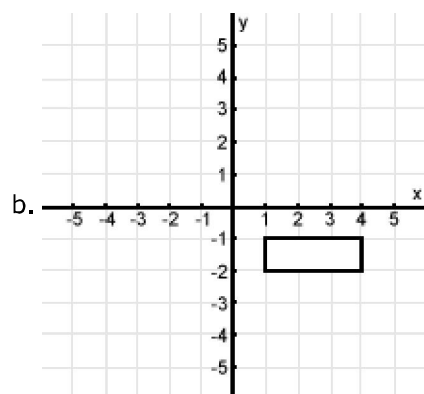
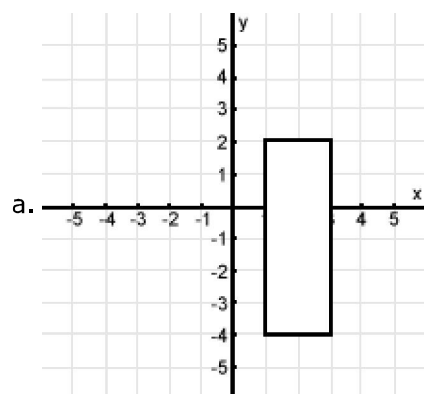
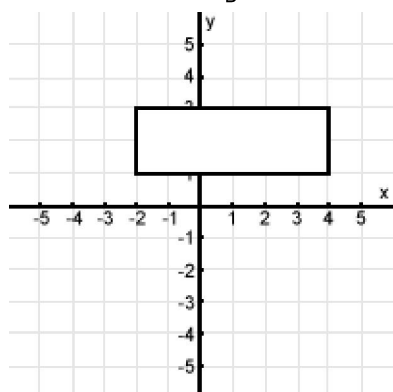


- a. 25 degrees
  - b. 40 degrees
  - c. 45 degrees
  - d. 220 degrees
49. Which equation has x-intercept -2 and y-intercept 4?
- a.  $2x - y = 4$
  - b.  $2y - x = 4$
  - c.  $y - 2x = 4$
  - d.  $x - 2y = 4$
50.  $AB = 6$   
 $BC = 8$   
What is the length of AC?

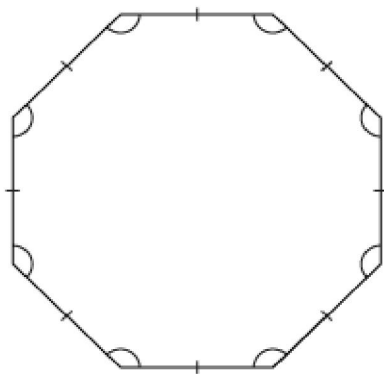


- a. 16
- b. 3.8
- c. 10
- d. 5.3

51. Which of the images is a  $180^\circ$  clockwise rotational transformation of this image?

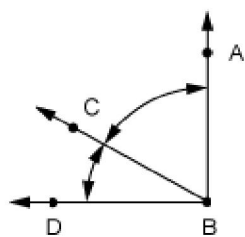


52. Find the measure of one angle of the following polygon.



- a.  $135^\circ$   
b.  $1080^\circ$   
c.  $1440^\circ$   
d.  $180^\circ$
53. Two angles are \_\_\_\_\_ angles if the sum of their measures are 180 degrees
- a. supplementary  
b. complementary  
c. straight  
d. right
54. Based on the following information, where  $\angle ABD$  is a right angle, which equation could be used to solve for x?

$$m\angle DBC = x$$
$$m\angle CBA = 2x$$



- a.  $2x - x = 90$   
b.  $2x + x = 90$   
c.  $2x - x = 180$   
d.  $2x + x = 180$

55.  $\frac{1}{9} \times -\frac{1}{2} - \left(-\frac{2}{3}\right) \times -\frac{1}{8} =$

$\frac{2}{35}$

a.  $\frac{2}{35}$

b.  $-\frac{5}{36}$

c.  $-\frac{7}{35}$

d.  $\frac{2}{36}$

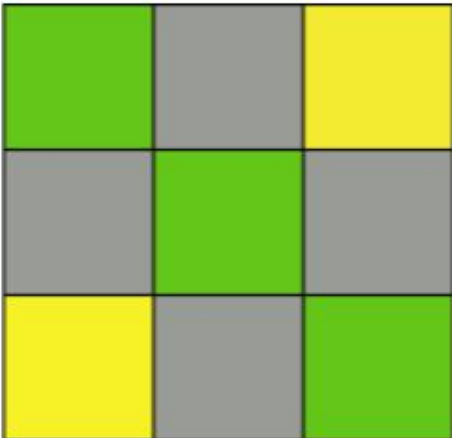
56. Simplify the following expression.

$$7r + 15(r - 4) + 11s + 5(6r + 12s) + 2$$

57. Belinda drew this pattern on grid paper.

She then created the pattern with tiles. Each tile has an area of  $9 \text{ cm}^2$

Area of the whole pattern =



a. 81

b. 9

c. 18

d. 162

58. Last night, Pearl spent 45 minutes on maths questions, 25 minutes on learning to spell and 55 minutes on a history project.

How much time was that altogether?

a. 2 hrs and 5 minutes

b. 2 hrs and 15 minutes

c. 1 hrs and 50 minutes

d. 2 hrs and 50 minutes

e. 2 hrs and 10 minutes

59. A laptop's price increased by 50%, and then it decreased by 40%. What is the net percentage change in the price?

a. 5% increase

b. 10% increase

c. 15% increase

d. 20% increase

60. The value of a rare stamp increased by 25% in the first year and then decreased by 20% in the second year. What is the overall percentage change in its value?
- 0% change
  - 5% decrease
  - 5% increase
  - 10% decrease
61. A company's stock price increased by 15% last year and decreased by 10% this year. What is the net percentage change in the stock price over the two years?
- 3% increase
  - 4% increase
  - 4.5% increase
  - 5% increase
62. The population of a city increased by 10% in one year and then increased by another 10% in the following year. What is the overall percentage increase in population?
- 15% increase
  - 18% increase
  - 21% increase
  - 25% increase
63. A store raised the price of a product by 20%, and after some time, they offered a 10% discount. What is the net percentage change in the price? A. 6% increase
- 8% increase
  - 10% increase
  - 12% increase
64. A company's profits decreased by 30% last year and then decreased by another 20% this year. What is the overall percentage decrease in profits over the two years?
- 40% decrease
  - 44% decrease
  - 50% decrease
  - 55% decrease
65. The speed of a car decreased by 15% after a tune-up. If the car's original speed was 60 mph, what is the new speed?
- 48 mph
  - 50 mph
  - 51 mph
  - 52 mph
66. A company's workforce decreased by 25% due to layoffs. If they had 800 employees before the layoffs, how many employees do they have now?
- 500 employees
  - 600 employees
  - 650 employees
  - 700 employees
67. The price of a smartphone dropped by 12% in the first month and then dropped by another 8% the following month. What is the overall percentage decrease in its price over the two months?
- 18.4% decrease
  - 19.36% decrease
  - 20% decrease
  - 22% decrease

68. A recipe calls for reducing a sauce by 40%. What percentage of the sauce remains after the reduction?
- a. 50%
  - b. 60%
  - c. 65%
  - d. 70%
69. Assuming that all of the expenses of OmegTV total 200 000 USD, how much are the expenses spent on leasing?

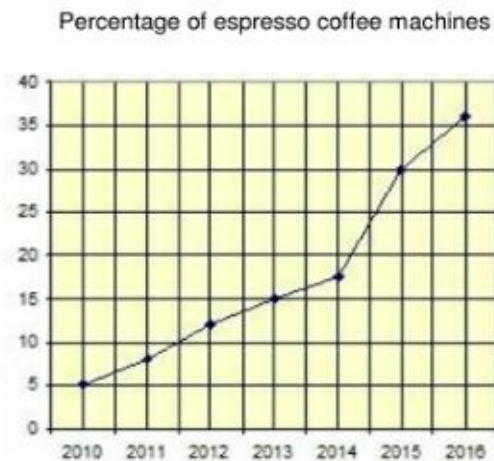
Types of financing in a production company OmegTV



- a. \$10 K
- b. \$20 K
- c. \$30 K
- d. \$40 K
- e. \$50 K

70. In the company producing household appliances, the share of coffee espresso machines in the total number of both sold coffee machines (espresso and drip coffee) is growing fast. It is expected that in 2016 it will amount to 36%. The following chart shows projected sales.

Assuming a stable amount of coffee machines produced over the next 6 years, what change will the share of drip coffee machines undergo between 2010 and 2015?



- a. up 25%
- b. Down 25%
- c. up 30%
- d. Down 30%
- e. Cannot Say
71. In a code language, "TRIP BARK LEMON" means "HAPPY BIRTHDAY MOM." "BARK MIST LEMON" means "MOM LOVES BIRTHDAY." What does "MIST" represent?
- A) HAPPY
- B) BIRTHDAY
- C) LOVES
- D) MOM
- E) TRIP
- a. A
- b. B
- c. C
- d. D
- e. E