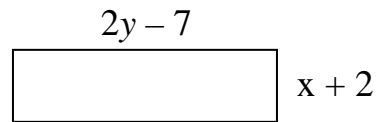


Answer questions 1-35 on your Scantron.

Questions 1-30 will be scored for the Power Bowl event. In the event of a tie, questions 31-35 will be used as the tiebreaker.

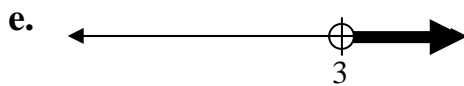
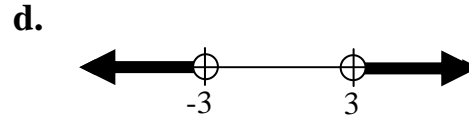
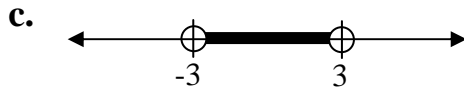
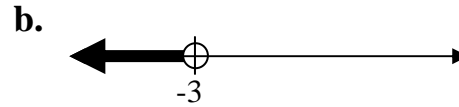
1. Write an expression for the perimeter of the rectangle pictured below.



- a. $2x + 4y - 10$ b. $2y + x - 10$ c. $6xy - 10$ d. $x + 2y - 5$ e. NG
2. If Pat is $33\frac{1}{3}\%$ taller than Lee, then Lee is what percent shorter than Pat?
- a. 20% b. 25% c. 30% d. $33\frac{1}{3}\%$ e. NG
3. A propeller 4 m long is spinning so that a point 1 m from the center is moving at 900 m/sec. How fast is the movement of a point 2 m from the center?
- a. 900 m/sec b. 1800 m/sec c. 2700 m/sec d. 3600 m/sec e. NG

4. If 12 perfectly round marbles, each 1 cm in diameter, were arranged in a straight line, touching each other, what would be the distance between the centers of the first and last marbles?
- a. 10 cm b. 11 cm c. 12 cm d. 13 cm e. NG
5. The price of a \$64 coat is increased to \$72. What is the percent of increase?
- a. $88\frac{8}{9}\%$ b. $12\frac{1}{2}\%$ c. 8% d. $112\frac{1}{2}\%$ e. NG
6. Evaluate $-x^4$ if $x = 3$.
- a. -81 b. 81 c. -12 d. 12 e. NG
7. Write 62 million in scientific notation.
- a. 62×10^6 b. 6.2×10^6 c. 6.2×10^{-6} d. 6.2×10^7 e. NG
8. Chia bowled games with scores of 134, 79, 94, and 121. In order to raise the average score by two points, what would the score of the next game have to be?
- a. 107 b. 109 c. 117 d. 119 e. NG

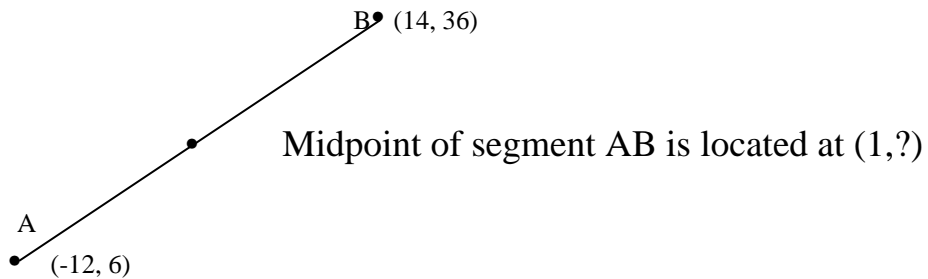
9. Graph: $|x| < 3$



10. \$? thousand was deposited in a bank at 6.5% interest compounded daily (365 days). In 20 years the principal will grow to \$36,688.72:

- a. \$1,000 b. \$10,000 c. \$20,000 d. \$30,000 e. NG

11.



- a. 2 b. 21 c. 42 d. 30 e. NG

12. Which of the following expressions represents a negative number?

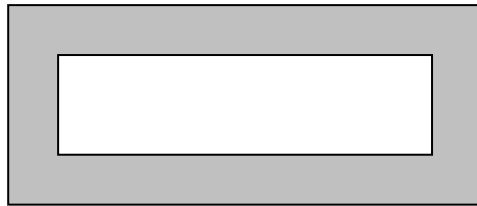
- a. 6^{-3} b. $-6 \div (-3)$ c. $-9 - (-13)$ d. $(-6 - 2)(-2 + 5)$ e. $(-3)^2$

13. $y = x^2 - 5x + 6$

What is the y-intercept of this parabola?

- a. 0 b. 1 c. -5 d. 6 e. NG

14. Mrs. Dritsas put in a 2-foot wide sidewalk that completely surrounds her rectangular garden. The garden is 3 feet longer than it is wide. The outside perimeter of the sidewalk is 70 feet. What is the width of the garden?



- a. 15 ft. b. 31.5 ft. c. 12 ft. d. 28.5 ft. e. NG

15. A jar contains 5 red and 6 blue marbles. Which represents the probability of selecting a blue marble?

- a. $\frac{5}{6}$ b. $\frac{5}{11}$ c. $\frac{6}{11}$ d. $\frac{11}{11}$ e. NG

16. Find the slope of a line perpendicular to the line:

$$18y + 2x = 10$$

- a. 9 b. -9 c. $\frac{1}{9}$ d. $-\frac{1}{9}$ e. NG
17. If $x^2 + y = 25$ and $x = 3$, what is the value of y .

- a. 19 b. 16 c. $\sqrt{22}$ d. 20 e. NG

18. A purchase is made under the following conditions.

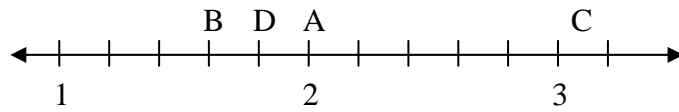
There is a 10% discount due to a sale. On this new price, there is a 10% discount for paying cash. The customer paid \$324.00.

What was the original price before any discount was given?

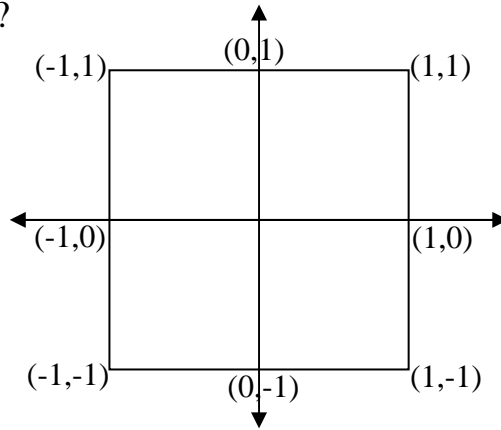
- a. \$259.20 b. \$360 c. \$400 d. \$405 e. NG
19. What is the sum of the three greatest consecutive integers less than 200 for which the least number has 4 as a factor, the second number has 5 as a factor and the greatest number has 6 as a factor?

- a. 555 b. 570 c. 585 d. 594 e. NG

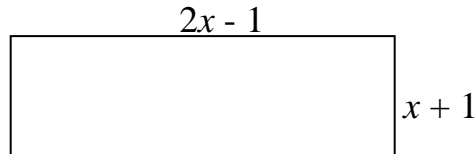
20. Choose the letter on the number line which represents $1\frac{3}{5} + 0.2$.



- a. A b. B c. C d. D e. NG
21. Start at (1,0). Move 1001 units around the square in a counterclockwise direction. What would be the coordinates of the ending point?



- a. (1, -1) b. (1, 1) c. (0, 1) d. (-1, -1) e. NG
22. Find an expression for the area of the rectangle



- a. $2x^2 + x - 1$ b. $3x$ c. $2x^2 - 1$ d. $6x$ e. NG

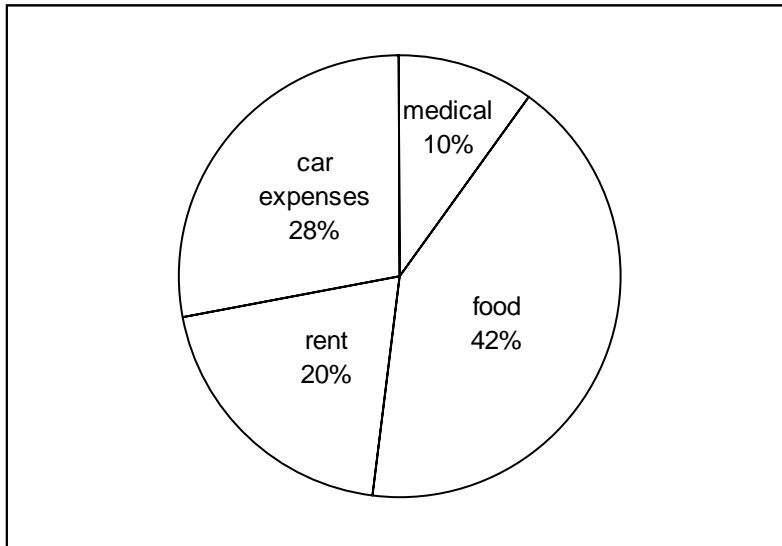
23. Solve: $4 - (x - 4) < 2x + 14$

- a. $x < -4\frac{2}{3}$ b. $x > -2$ c. $x > -4\frac{2}{3}$ d. $x < -2$ e. NG

24. Two CD's and three cassettes cost \$42. If 1 CD costs twice as much as 1 cassette, then the cost of 1 CD and 1 cassette is

- a. \$12 b. \$15 c. \$16 d. \$18 e. NG

25. The Smith's monthly income is \$2200. How much more do they spend on food than rent?



- a. \$924 b. \$616 c. \$308 d. \$484 e. NG

26. How many pairs of parallel edges does a rectangular solid have?

- a. 8 b. 12 c. 16 d. 18 e. NG

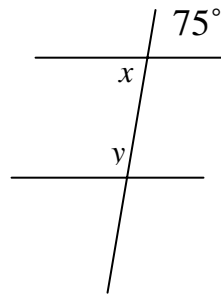
27. A straight line passes through the three points (3, -4), (5, 1) and (7, y).
What is the value of y?

- a. 0 b. 1 c. 4 d. 6 e. NG

28. The 1985th digit to the right of the decimal point in the decimal expansion of $\frac{1}{7}$ is:

- a. 2 b. 4 c. 5 d. 8 e. NG

29. In the diagram at the right, two parallel lines are intersected by a third line, forming a 75° angle as shown. If x and y represent the degree measures of the angles indicated, then $x + y =$



- a. 75° b. 90° c. 105° d. 180° e. NG

30. $2y - 14x = 28$
Determine the y- intercept of this line

- a. 2 b. 14 c. 28 d. 7 e. NG

31. Which sequence below is not a geometric sequence?

- a. 1,-1,1,-1,1,-1,1,-1,... b. 3,6,9,12,15,...
c. 27,9,3,1, $\frac{1}{3}$... d. 2,4,8,16,32,... e. -256,-25.6,-2.56,-.256,...

32. Sarah, Amanda, and Ian took a true-false test last week. The test had three questions. Only one of their test papers had all three questions answered correctly; the other two papers each had two correct answers and one incorrect answer. Who had all three questions answered correctly?

<i>Sarah</i>	<i>Amanda</i>	<i>Ian</i>
1. True	1. False	1. False
2. True	2. False	2. True
3. False	3. False	3. False

- a. Sarah b. Amanda c. Ian d. All of the above e. None

33. What is the product of all of the values of n that make $546,324,16n$ divisible by 6?

- a. 6 b. 8 c. 16 d. 32 e. NG

34. $-3x + y = -7$
 $x - 2y = -21$

Find the y -coordinate of the point of intersection.

- a. 14 b. -14 c. 7 d. -7 e. NG

35. Given $\frac{5}{13} = \frac{n}{39} = \frac{m+n}{156} = \frac{p-m}{104}$. What is the value of p ?

- a. 15 b. 85 c. 60 d. 40 e. NG