

1. Simplify: $2(3s - 8) + 7$

- A) $6s - 9$ B) $6s - 1$ C) $-10s + 7$ D) $6s + 23$

2. Multiply: $(a^4b^2)(ab^3)$

- A) a^4b^5 B) ab^6 C) a^5b^5 D) ab^5

3. Solve for b : $a = \frac{1}{2}bc^2$

- A) $2a - c^2$ B) $\frac{a}{2c^2}$ C) $\frac{2a}{c^2}$ D) $\frac{a - c^2}{2}$

4. An employee who produces x units per hour earns an hourly wage of $y = 0.10x + 10$. Find the hourly wage for an employee who produces 10 units per hour.

- A) \$11.00 B) \$10.10 C) \$10.90 D) \$20.00

5. Find the slope of the line passing through the points $(8, -3)$ and $(-10, -5)$.

- A) -9 B) $-\frac{1}{9}$ C) $\frac{1}{9}$ D) 9

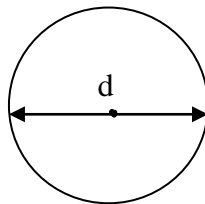
6. Find the mean of 14, 4, 12, 8, 6, 16:

- A) 6 B) 10 C) 12 D) 8

7. A rectangular prism has a length of 5 cm and width of 10 cm. If the volume of the prism is 300 cm^3 , find the height. (Volume of a rectangular prism is $V = LWH$).

- A) 1 cm B) 3 cm C) 5 cm D) 6 cm

8. Find the area of the circle if $d = 10$ yd. Use $\pi = 3$.



- A) $A = 75 \text{ yd}^2$ B) $A = 300 \text{ yd}^2$ C) $A = 30 \text{ yd}^2$ D) $A = 25 \text{ yd}^2$

9. Solve: $4x - 8 = 12$

- A) 5 B) 3 C) 6 D) 4

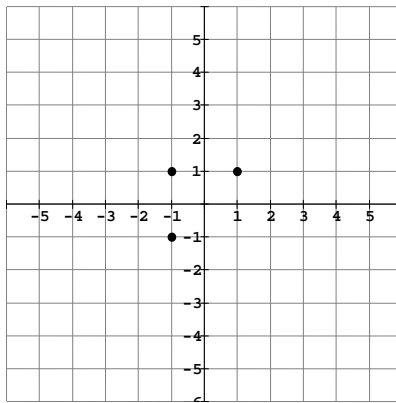
10. Write in simplest form: $\frac{12a^5b}{24ab^2}$

- A) $\frac{a^5}{2b^2}$ B) $2a^4b$ C) $\frac{a^4}{2b}$ D) $\frac{2a^5}{b^2}$

11. A survey is taken to determine the number of Seneca college students that use laptops. Which of the following would be a representative sample?

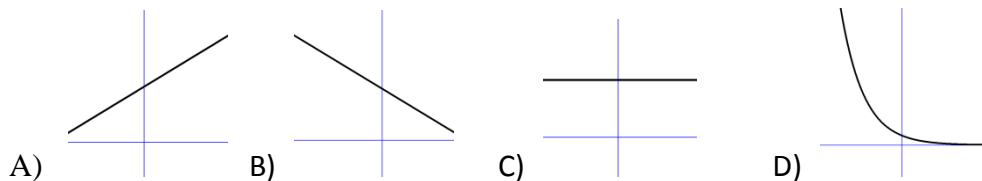
- A) only students in first year
B) every second student in a first semester class
C) a random selection of students in a college English class
D) 50 males and 50 females selected randomly from a college student list

12. Give the ordered pair that would complete the "square" in the graph below.



- A) (0, 0) B) (1, -1) C) (-1, -1) D) (-1, 1)

13. Which of the following graphs represents an increasing slope?



14. Distribute and collect like terms: $8y - (-7y - 4x)$

- A) $y - 4x$ B) $15y + 4x$ C) $15y - 4x$ D) $y + 4x$

15. Simplify: $\left(\frac{x}{y^5}\right)^2$

- A) $\frac{x}{y^{10}}$ B) $\frac{x^2}{y^{10}}$ C) $\frac{x^2}{y^{25}}$ D) $\frac{x^2}{y^5}$

16. Find the value of the polynomial $x^3 - 4x$ when $x = -2$.

- A) 0 B) -16 C) -2 D) 16

17. Multiply: $(x + 4)(x - 4)$

- A) $x^2 + 16$ B) $x^2 + 8x - 16$ C) $x^2 - 16$ D) $x^2 - 8x - 16$

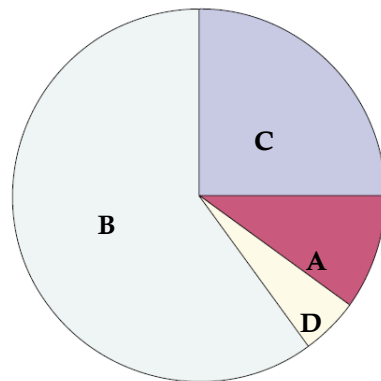
The pie graph seen below shows the fraction of students' grades (A, B, C and D) for a first-year college math course. Answer the following questions (#18, 19 and 20) based on the pie graph.

18. The majority of students in the course obtained a grade of

- A) A
B) B
C) C
D) D

19. The fewest number of students received a grade of

- A) A
B) B
C) C
D) D



20. Approximately what percentage of students received a grade of C?

- A) 5% B) 10% C) 25% D) 60%

21. Evaluate the expression $4a - 7b$ if $a = -2$ and $b = 3$.

- A) 29 B) -30 C) -29 D) -28

22. Which of the ordered pairs is a solution for the equation $4x - 2y = 8$?

- A) $(-2, -4)$ B) $(0, -4)$ C) $(-2, 0)$ D) $(0, 4)$

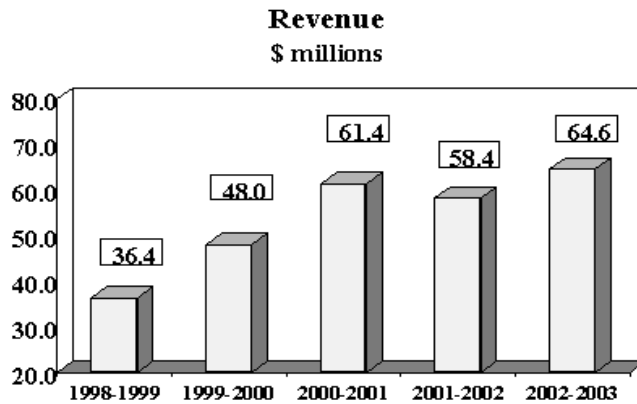
23. A person runs 500 m in 30 seconds. How many metres will that person run in 3 min (if they keep the same speed)?

- A) 250 m B) 3 000 m C) 300 m D) 1 000 m

24. Solve for x : $-\frac{1}{4}x = -2$

- A) $x = 8$ B) $x = -8$ C) $x = -\frac{1}{2}$ D) $x = \frac{1}{2}$

The bar graph below shows amount of revenue gained per yearly period. Use this graph to answer the following questions (#25, 26 and 27):



25. Which period showed the highest revenue?

- A) 2002 – 2003
B) 1998 – 1999
C) 2000 – 2001
D) 1999 – 2000

26. Which period showed the lowest revenue?

- A) 2002 – 2003
B) 1998 – 1999
C) 2000 – 2001
D) 1999 – 2000

27. What was the difference in revenue between the period 1999 – 2000 and 2002 – 2003?

- A) 11.4 million
- B) 15.4 million
- C) 13.4 million
- D) 16.6 million

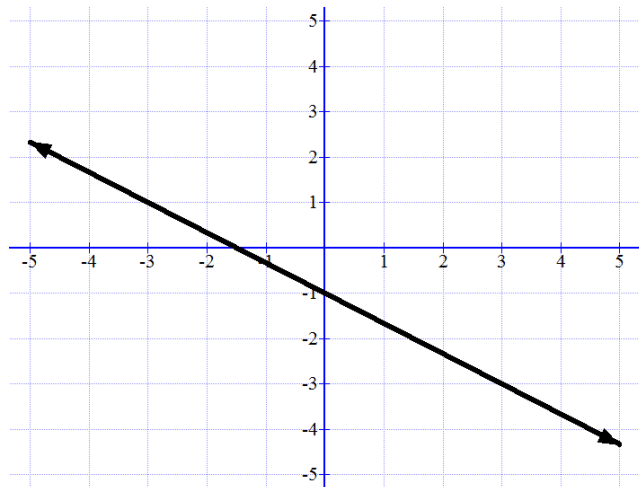
28. The formula $^{\circ}C = \frac{5}{9}(^{\circ}F - 32)$ converts temperatures in Fahrenheit to Celsius. Find the Celsius equivalent of $77^{\circ}F$.

- A) $85^{\circ}C$
- B) $65^{\circ}C$
- C) $45^{\circ}C$
- D) $25^{\circ}C$

29. The area of a triangle with a base of 40 cm and altitude of 60 cm is:

- A) 120 cm^2
- B) $1\,200 \text{ cm}^2$
- C) 240 cm^2
- D) $2\,400 \text{ cm}^2$

30. What is the slope of the line in the graph below?



- A) $\frac{2}{3}$
- B) $-\frac{2}{3}$
- C) $\frac{3}{2}$
- D) $-\frac{3}{2}$