**The bar graph below shows the number of students by major in the College of Arts and Sciences. Answer the question.**
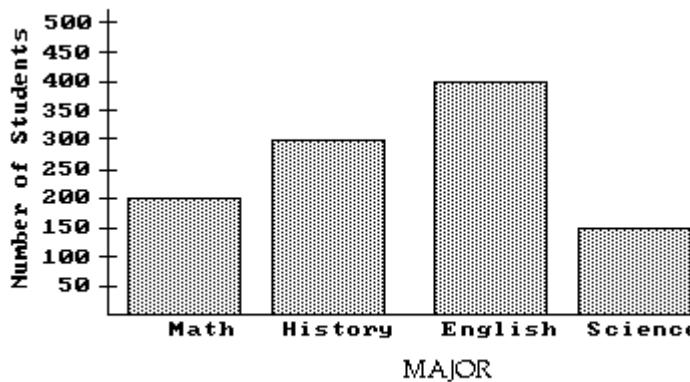

1) Which major has the largest number of students?

2) Which major has about 150 students?

Use the line graph to answer the question.

3) Which month in 1989 had the lowest sales?
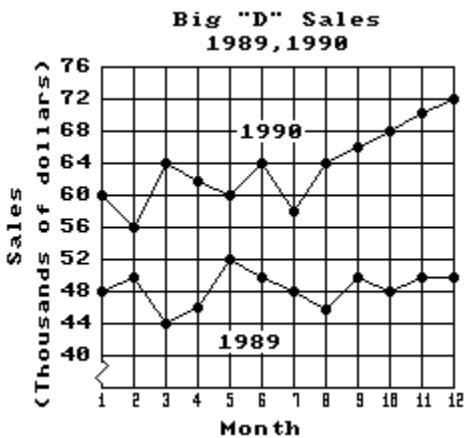
4) Which month in 1989 had the highest sales?
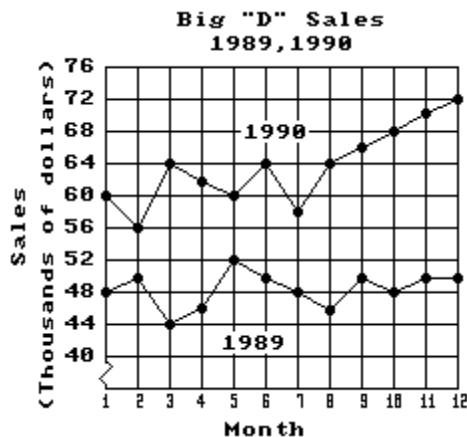
**Complete the table of values for the given equation.**

5) y = -x + 3

x	y
-2	
0	
2	

6) 4x - 5y = -20

x	y
	4
	0
	8

1

Plot the ordered pairs on the rectangular coordinate system provided.

7) A(3, 0), B (0, 1)
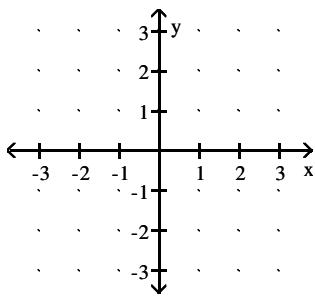
Find the x-intercept and the y-intercept for the graph of the equation.

8) $2x + y = -8$

9) $-2x + 2y = 8$

Graph the linear equation.

10) $-5x - y = 0$

11) $x + y = -2$

12) $y + 3 = 0$

13) $x = -3$

Evaluate.

14) $11^0 + 7^0$

15) $7^0 - 3^0$

16) $-(3^0) + (-4)^0$

Use the rules for exponents to simplify. Write answers with only positive exponents. Assume that all variables represent nonzero numbers.

17) $w^{-3} \cdot w^5 \cdot w^{-6}$

18) $\left(-6rt\right)^2$

19) $(-3x^3y)^4$

20) $\left(\dfrac{3p^3v^2}{s^2}\right)^3$

21) $\dfrac{p^2}{p^{-4}}$

22) $\left(\dfrac{yz^{-4}}{y^{-3}z}\right)^{-2}$

Write the number in scientific notation.

23) 7744

24) .000255

Write the number in standard form without exponents.

25) 6.0718×10^4

26) 5.205×10^{-5}

Evaluate the polynomial.

27) $2x^3 + 5x^2 + 43$ for $x = -3$

28) $-4x^2 - 4x - 2$ for $x = 2$

29) $-6x^2 - 5x + 5$ for $x = -2$

2

Perform the indicated operation.

30) $-2x^6(6x^7 - 8)$

31) $-2x^9(5x^5 - 7x^4 - 8)$

32) $(2p - 1)(4p^2 + 2p + 1)$

33) $(2x - 9)(x - 7)$

34) $(x - 8)(-3x - 12)$

35) $(x + 4y)(x - 6y)$

36) $(4m + 7)^2$

37) $(3a - 8)^2$

38) $(3p + 2)(3p - 2)$

39) $(2a + 11c)(2a - 11c)$

40) $(9 + 5n^5 + 3n^2) + (9n^5 + 9n^2 + 3)$

41) $(6 + 6x^2 + 7x^4 - 3x^3) +$
$(6x^3 + 8x^2 - 5 + 8x^4)$

42) $(-2x^3 + 4x^5 - 2 - 6x^4) -$
$(-9 + 3x^4 + 8x^5 + 8x^3)$

43) $(3n^5 - 18n^2 - 9) - (-5n^2 + 8n^5 + 8)$

Perform the division. Write the answer with positive exponents.

44) $\dfrac{6x^8 + 27x^5}{3x^2}$

45) $\dfrac{24x^7 - 24x^3}{-6x^7}$

46) $\dfrac{36x^4 + 30x^3 + 30x^2}{6x^3}$

3

1) English
2) Science
3) Month 3
4) Month 5
5) 5; 3; 1
6) 0; -5; 5
7)
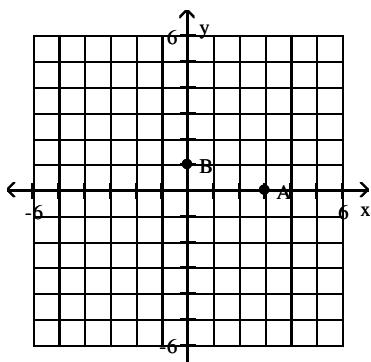
8) (-4, 0) (0, -8)
9) (-4, 0) (0, 4)
10)
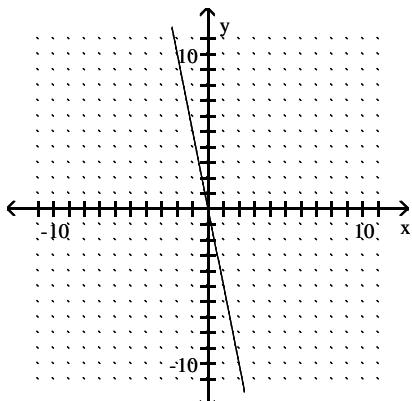
11)
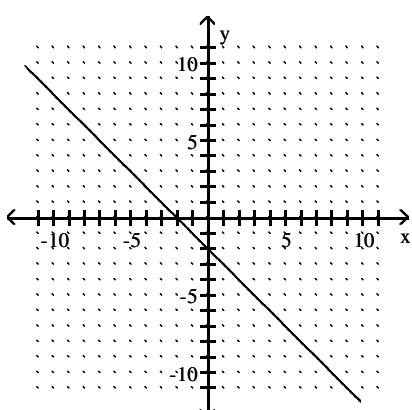
12)
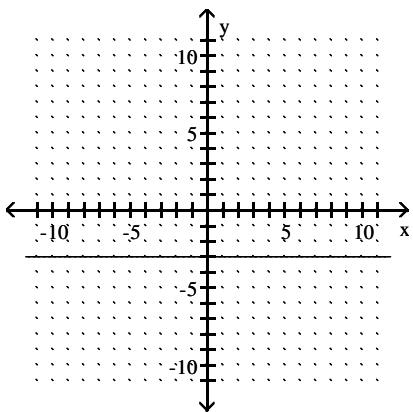
13)
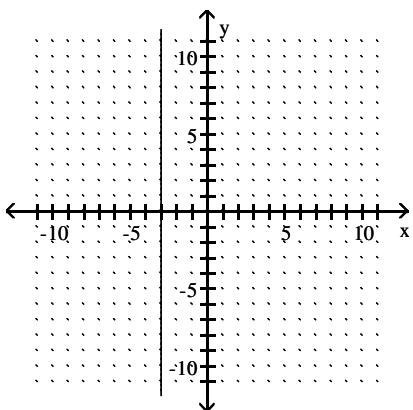
14) 2
15) 0
16) 0
17) $\dfrac{1}{w^4}$

18) $36r^2t^2$
19) $81x^{12}y^4$
20) $\dfrac{27p^9v^6}{s^6}$

21) p^6
22) $\dfrac{z^{10}}{y^8}$

23) 7.744×10^3
24) 2.55×10^{-4}
25) 60,718
26) .00005205
27) 34
28) -26

4

29) -9

30) $-12x^{13} + 16x^6$

31) $-10x^{14} + 14x^{13} + 16x^9$

32) $8p^3 - 1$

33) $2x^2 - 23x + 63$

34) $-3x^2 + 12x + 96$

35) $x^2 - 2xy - 24y^2$

36) $16m^2 + 56m + 49$

37) $9a^2 - 48a + 64$

38) $9p^2 - 4$

39) $4a^2 - 121c^2$

40) $14n^5 + 12n^2 + 12$

41) $15x^4 + 3x^3 + 14x^2 + 1$

42) $-4x^5 - 9x^4 - 10x^3 + 7$

43) $-5n^5 - 13n^2 - 17$

44) $2x^6 + 9x^3$

45) $-4 + \dfrac{4}{x^4}$

46) $6x + 5 + \dfrac{5}{x}$