1

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

The table above shows some values of x and their corresponding values of y. Which of the following equations shows a possible relationship between x and y?

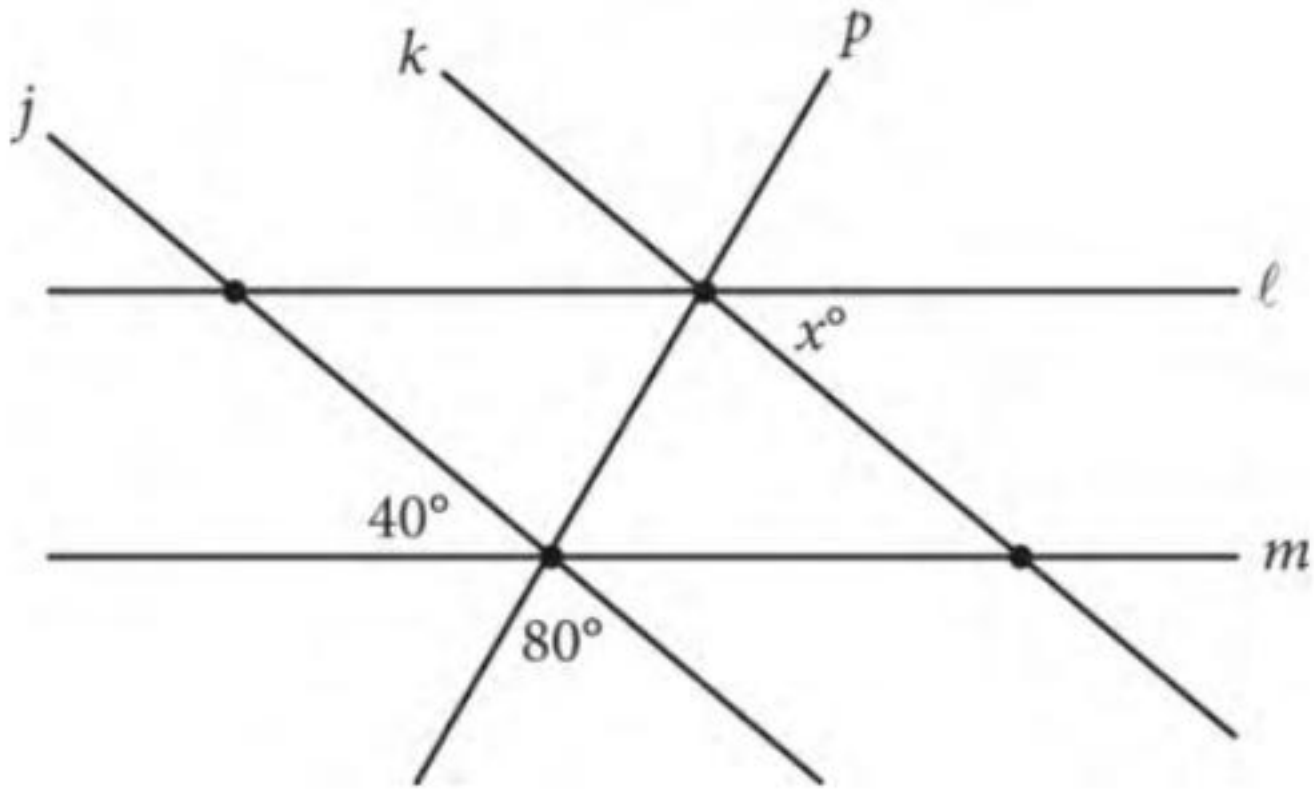
A) $y = x + 2$

B) $y = x - 2$

C) $y = 2x + 3$

D) $y = 3x - 2$

2



In the figure shown, line j is parallel to line k and line ℓ is parallel to line m. What is the value of x?

A) 40

B) 60

C) 80

D) 100

3

The function f is defined by $f(x) = x^2 - 5x + 6$.
What is the value of $f(4)$?

A) 0

B) 2

C) 12

D) 30

4

Aracely can spend up to a total of $20 on streamers and balloons for a party. Streamers cost $1.49 per pack, and balloons cost $4.39 per pack. Which of the following inequalities represents this situation, where s is the number of packs of streamers Aracely can buy, and b is the number of pack of balloons Aracely can buy? (Assume there is no sales tax.)

A) $1.49s - 4.39b \leq 20$

B) $1.49s + 4.39b \leq 20$

C) $1.49s - 4.39b \geq 20$

D) $1.49s + 4.39b \geq 20$

5

Bill is planning to drive 1,000 miles to visit his family. If he plans to drive 250 miles per day, which of the following represents the remaining distance d, in miles, that Bill will have to drive to reach his family after driving for n days?

A) $d = 1{,}000 + 250n$

B) $d = 1{,}000n - 250$

C) $d = 250n - 1{,}000$

D) $d = 1{,}000 - 250n$

6

$$(x^3 + x) + (x^2 - x)$$

Which of the following is equivalent to the given expression?

A) $x^5 - x^2$

B) $x^5 - x^4 + x^3 - x^2$

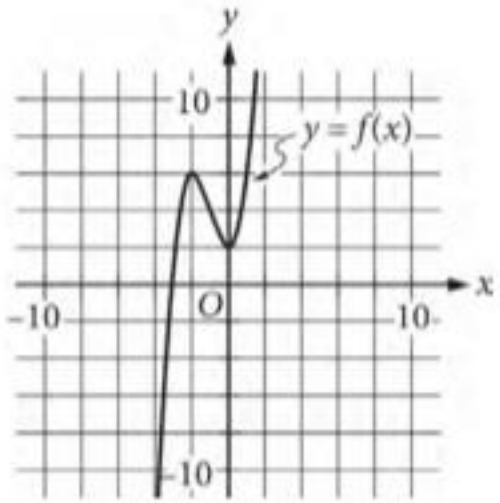
C) $x^3 + x^2$

D) $x^3 + x^2 + 2x$

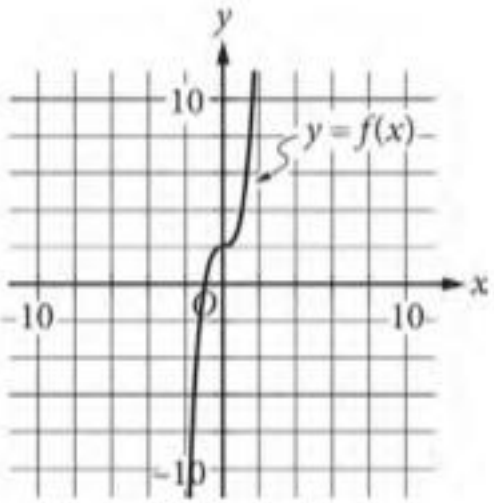
x	$f(x)$
−2	−2
−1	3
0	2
1	7
2	30

The table gives some values of x and the corresponding values of $f(x)$ for polynomial function f. Which of the following could be the graph of f in the xy-plane, where $y = f(x)$?

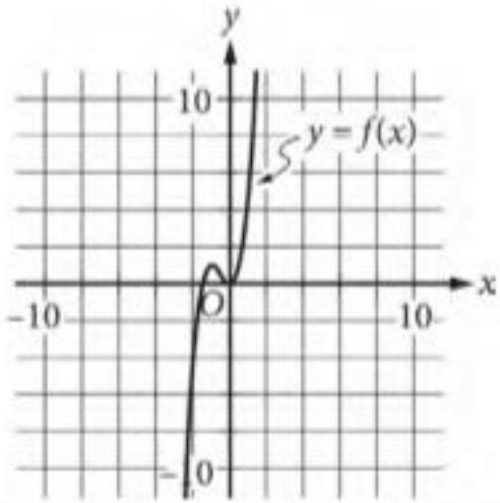
A)



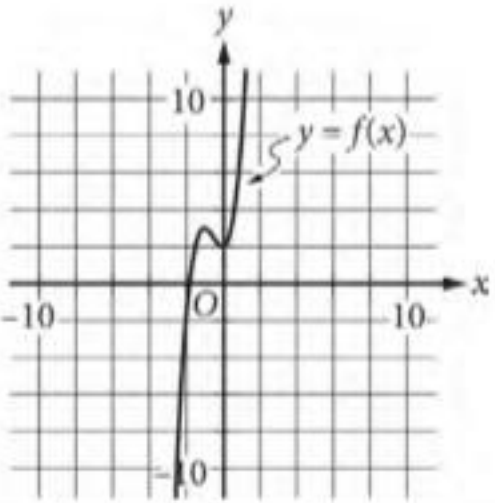
B)



C)



D)



$$\frac{x+2}{(x+2)^2}$$

Which of the following expressions is equivalent to the given expression, where $x \neq -2$?

A) $x+2$

B) $\frac{1}{x+2}$

C) x^2+2x+4

D) $\frac{1}{x^2+2x+4}$

9

Which of the following is an equation of the line in the xy-plane that contains the points $(1, 3)$ and $(5, 15)$?

A) $y = 3x$

B) $y = 2x + 5$

C) $y = x + 2$

D) $y = \frac{1}{3}x$