1. Find the domain and range of the of the absolute value function $f(x) = 3|x + 4| + 3$..

A. The domain is $D = \mathbb{R}$ and the range is $R = [-4, \infty)$.

B. The domain is $D = (-\infty, -4]$ and the range is $R = \mathbb{R}$.

C. The domain is $D = \mathbb{R}$ and the range is $R = [3, \infty)$.

D. The domain is $D = (-\infty, 3]$ and the range is $R = \mathbb{R}$.

E. The domain is $D = [3, \infty)$ and the range is $R = \mathbb{R}$.

F. The domain is $D = [-4, \infty)$ and the range is $R = \mathbb{R}$.

G. The domain is $D = \mathbb{R}$ and the range is $R = (-\infty, -4]$.

H. The domain is $D = \mathbb{R}$ and the range is $R = (-\infty, 3]$.

2. When rolling a pair of dice, the probability that the sum of the numbers on those dice is x is given by $P(x) = \frac{6-|7-x|}{36}$, where x can be any integer from 2 to 12. Evaluate and interpret the expression $P(4)$.

A. $P(4) = \frac{1}{9}$. This means that when you roll a pair of dice, there is a $\frac{1}{9}$ chance that the sum will be 4.

B. $P(4) = \frac{1}{36}$. This means that when you roll a pair of dice, there is a $\frac{1}{36}$ chance that the sum will be 4.

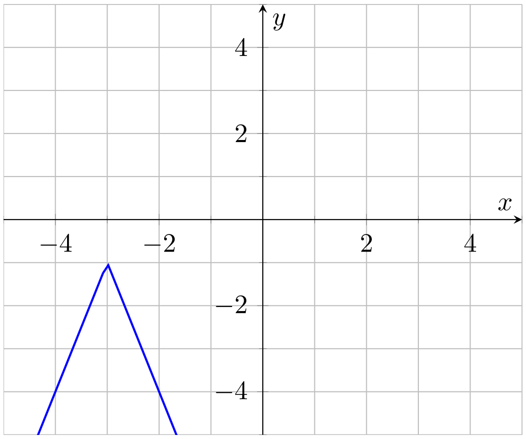
C. $P(4) = \frac{1}{6}$. This means that when you roll a pair of dice, there is a $\frac{1}{6}$ chance that the sum will be 4.

D. $P(4) = \frac{1}{18}$. This means that when you roll a pair of dice, there is a $\frac{1}{18}$ chance that the sum will be 4.

E. $P(4) = \frac{5}{36}$. This means that when you roll a pair of dice, there is a $\frac{5}{36}$ chance that the sum will be 4.

F. $P(4) = \frac{1}{12}$. This means that when you roll a pair of dice, there is a $\frac{1}{12}$ chance that the sum will be 4.

3. For the value of x for which the maximum occurs for the absolute value function $f(x)$ graphed below.



A. The maximum of $f(x)$ occurs at $x = 2$.

B. The maximum of $f(x)$ occurs at $x = -3$.

C. The maximum of $f(x)$ occurs at $x = 1$.

D. The maximum of $f(x)$ occurs at $x = 3$.

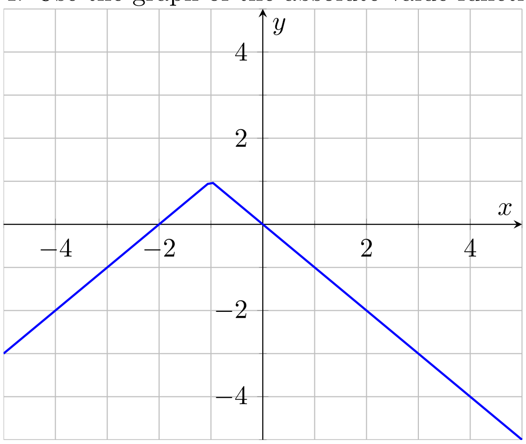
E. The maximum of $f(x)$ occurs at $x = -2$.

F. The maximum of $f(x)$ occurs at $x = 4$.

G. The maximum of $f(x)$ occurs at $x = -4$.

H. The maximum of $f(x)$ occurs at $x = -1$.

4. Use the graph of the absolute value function to find intervals where the function positive.



A. The function $f(x)$ is positive on $(0,0) \cup (0,-2)$

B. The function $f(x)$ is positive on $(-\infty,0) \cup (-2,\infty)$

C. The function $f(x)$ is positive on $(0,-2)$

D. The function $f(x)$ is positive on $(0,0) \cup (-2,0)$

E. The function $f(x)$ is positive on $(0,0)$.

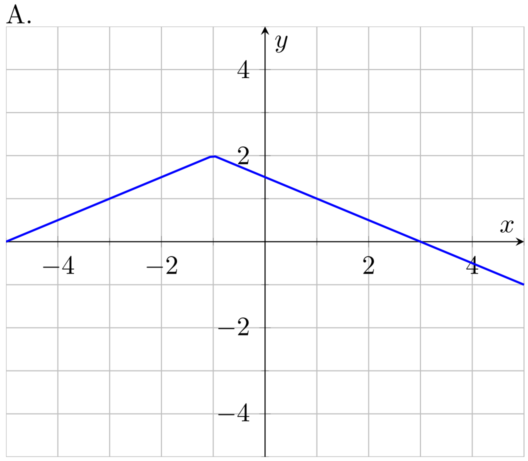
F. The function $f(x)$ is positive on $(-\infty,-2) \cup (0,\infty)$

G. The function $f(x)$ is positive on $\mathbb{R}$.

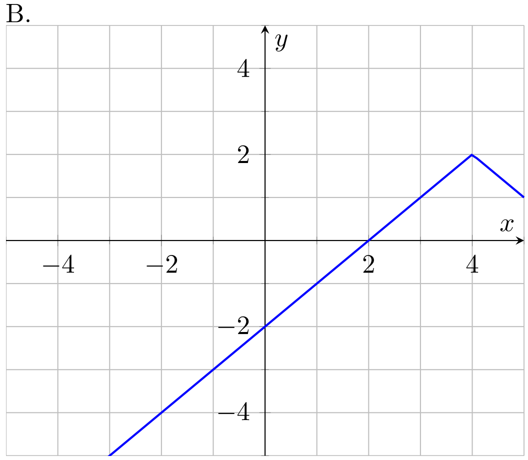
H. The function $f(x)$ is positive on $(-2,0)$

5. Graph the absolute value function $f(x) = -|x-4| + 2$.

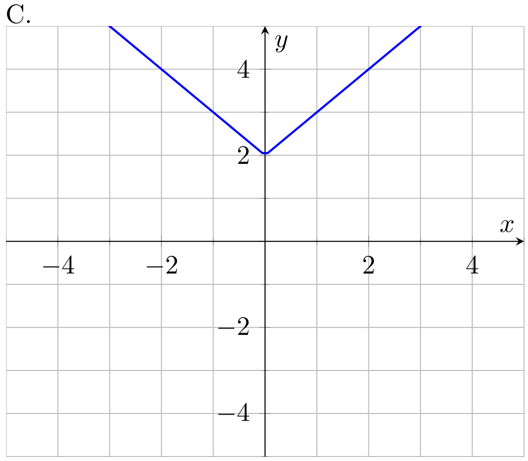
A.



B.

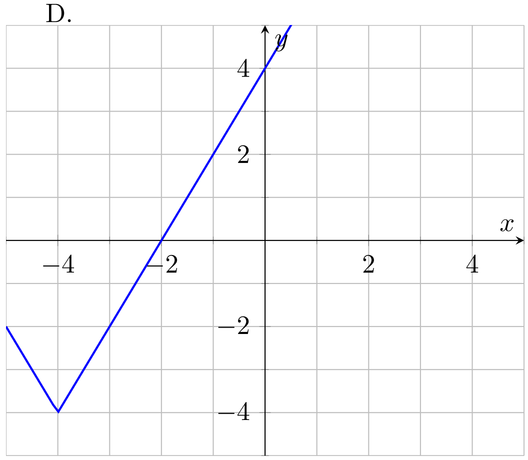


C.

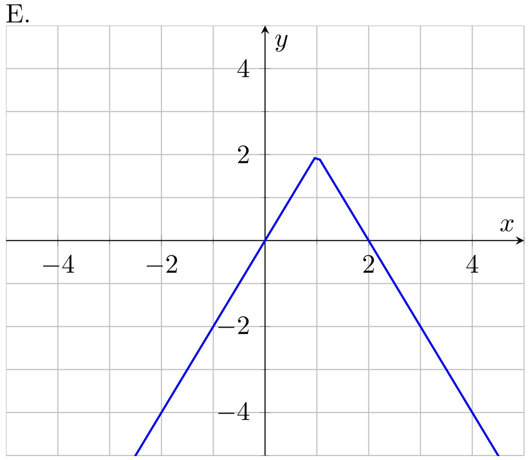


MORE OPTIONS ON NEXT PAGE...

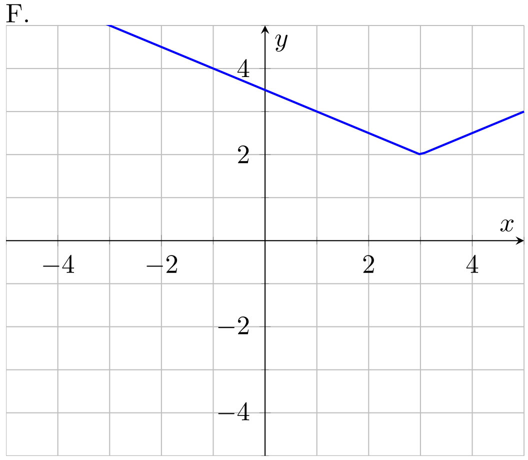
D.



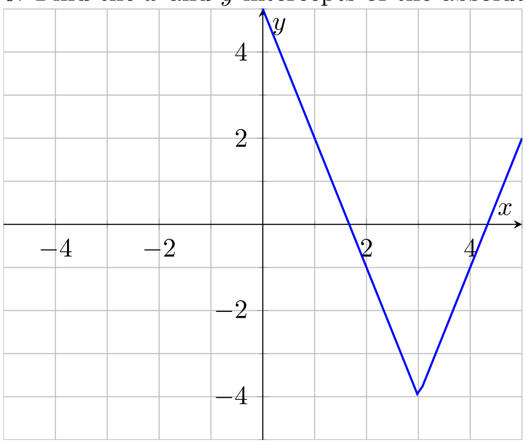
E.



F.



6. Find the x and y-intercepts of the absolute value function graphed below.



A. The x-intercepts are $(4.666666666666667, 0)$ and $(7.333333333333333, 0)$. The y intercept is $(0, 5)$.

B. The x-intercepts are $(5.666666666666667, 0)$ and $(8.333333333333332, 0)$. The y intercept is $(0, 5)$.

C. The x-intercepts are $(1.6666666666666667, 0)$ and $(4.333333333333333, 0)$. The y intercept is $(0, 5)$.

D. The x-intercepts are $(-1.3333333333333333, 0)$ and $(1.333333333333333, 0)$. The y intercept is $(0, 5)$.

E. The x-intercepts are $(-2.333333333333333, 0)$ and $(0.33333333333333304, 0)$. The y intercept is $(0, 2)$.

F. The x-intercepts are $(2.666666666666667, 0)$ and $(5.333333333333333, 0)$. The y intercept is $(0, 2)$.

G. The x-intercepts are $(-0.33333333333333326, 0)$ and $(2.333333333333333, 0)$. The y intercept is $(0, 2)$.

H. The x-intercepts are $(3.666666666666667, 0)$ and $(6.333333333333333, 0)$. The y intercept is $(0, 2)$.

7. Find the interval(s) where the absolute value function $f(x) = |x - 1| - 1$ is negative.

A. The function $f(x)$ is negative on $(2, 0) \cup (0, 0)$

B. The function $f(x)$ is negative on $\mathbb{R}$.

C. The function $f(x)$ is negative on $(-\infty, 0) \cup (2, \infty)$

D. The function $f(x)$ is negative on $(0, 2) \cup (0, 0)$

E. The function $f(x)$ is negative on $(0, 0)$.

F. The function $f(x)$ is negative on $(0, 2)$

G. The function $f(x)$ is negative on $(2, 0)$

H. The function $f(x)$ is negative on $(-\infty, 2) \cup (0, \infty)$

8. The voltage in an electrical circuit designed by a beginning electronics class is a function of time. This function is given by $V(t) = -120|2t - 1| + 120$, where t is the time in seconds and $V(t)$ is the voltage.
Evaluate and interpret the expression $V(0.3)$.

A. $V(0.3)$ =96. This means that after 0.3 seconds, the voltage in the circuit will be 96.

B. $V(0.3)$ =60. This means that after 0.3 seconds, the voltage in the circuit will be 60.

C. $V(0.3)$ =72. This means that after 0.3 seconds, the voltage in the circuit will be 72.

D. $V(0.3)$ =24. This means that after 0.3 seconds, the voltage in the circuit will be 24.

E. $V(0.3)$ =108. This means that after 0.3 seconds, the voltage in the circuit will be 108.

F. $V(0.3)$ =84. This means that after 0.3 seconds, the voltage in the circuit will be 84.