

Name:

If $f(x) = 2x^2 - x$ find $f(5)$	
a) 20	b) 45
c) 5	d) 55
Which of the following functions is odd	
a) $f(x) = 5x^3$	b) $f(x) = x^2 - 16$
c) $f(x) = x^3 + 1$	d) $f(x) = x^4 + 2x$
Which functions has a removable discontinuity	
a) $f(x) = x^2 - 4$	b) $f(x) = \frac{1}{x-7}$
c) $f(x) = \frac{x^2 - 25}{x-5}$	d) $f(x) = \frac{x-1}{x+3}$
Which function is the parent function for $g(x) = -3 x+9 $	
a) $f(x) = 3 x $	b) $f(x) = x+9 $
c) $f(x) = 3 x+9 $	d) $f(x) = x $
If $f(x) = 6 - x$, $g(x) = 4x + 1$	
Find $(f + g)(x)$	
a) $3x + 5$	b) $3x + 7$
c) $x + 5$	d) $x + 7$
Which function has a removable discontinuity?	
a) $f(x) = \frac{x}{x+3}$	b) $f(x) = \frac{x^2 - 4}{x+2}$
c) $f(x) = \frac{1}{x+3}$	d) $f(x) = x^3 - 3$

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If $f(x) = 1 - x^2$ and $g(x) = 4 - x^2$, find $(f - 2g)(x)$.

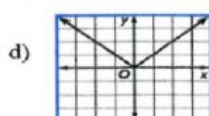
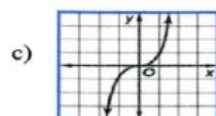
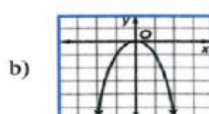
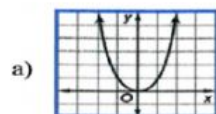
a) $(f - 2g)(x) = 3$

b) $(f - 2g)(x) = x^2 - 7$

c) $(f - 2g)(x) = -3$

d) $(f - 2g)(x) = 8 - 3x^2$

Which of the following represents the graph of $f(x) = |x^3|$?



Which of the following functions is odd?

a) $f(x) = x^4 + 4x$

b) $f(x) = x^4 - 9$

c) $f(x) = 2x^3$

d) $f(x) = -x^3 + 4$

If $f(x) = \begin{cases} -4x & , x < -1 \\ x^3 - 1 & , x \geq -1 \end{cases}$, find $f(-1)$.

a) -4

b) 2

c) 4

d) -2

4) Find the average rate of change of the function $g(x) = 8x^2 - 2x$ over $[-1, 1]$.

a) -2

b) 0

c) 2

d) ∞

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Find the average rate of change of the function

$$h(x) = 3x^2 - 8x + 2, [-1, 3]$$

7) What is the maximum number of turning points for the function

$$f(x) = 6x^4 + 11x^3 - x^2 + x?$$

a) 4

b) 3

c) 2

d) 6

What is the maximum number of real zeros of the function

$$f(x) = 2x^3 - 2x^2 - x + m$$

a) 3

b) 4

c) 1

d) 2

8) Determine the binomial that is a factor of $f(x) = x^4 - 9x^2 - 7x + 6$.

a) $x - 1$

b) $x + 1$

c) $x + 2$

d) $x - 2$

Which one is a rational zero for the function

$$f(x) = 3x^3 - 17x^2 + 23x - 27 ?$$

a) $\frac{1}{9}$

b) $\frac{27}{17}$

c) 9

d) $\frac{27}{23}$

Which function has invers function

a) $f(x) = x^2$

b) $f(x) = x^3$

c) $f(x) = \frac{1}{x^4}$

d) $f(x) = |x|$

Which is the solution for the inequality $(x + 3)(x - 2) \leq 0$?

a) $[-3, 2]$

b) $(-\infty, -3] \cup [2, \infty)$

c) $(-3, 2)$

d) $(-\infty, -3) \cup (2, \infty)$

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$$\sin 49^\circ \cos 19^\circ - \cos 49^\circ \sin 19^\circ$$

a) $\sqrt{3}$

b) $\frac{\sqrt{3}}{2}$

c) $\frac{1}{\sqrt{2}}$

d) $\frac{1}{2}$

Find the value of $\cos(\tan^{-1}1)$

a) $\frac{-1}{\sqrt{2}}$

b) $\frac{1}{\sqrt{2}}$

c) 0

d) 1

13) Find the exact value of $\cos^{-1}\left(\frac{1}{2}\right)$ if it exists.

a) $\frac{\pi}{3}$

b) $\frac{\pi}{6}$

c) $\frac{\pi}{2}$

d) Does not exist

Determine the vertical shift

$$3\sin\left(\frac{\pi}{4} - \frac{\pi}{2}\right) - 4$$

a) -4

b) 3

c) 8π

d) 4

12) Determine the amplitude of $y = -2\sin(4x + \pi) + 1$.

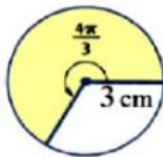
a) $\frac{-\pi}{4}$

b) -2

c) 2

d) 1

Find the area of the shaded region



a) 12π

b) 4π

c) 6π

d) 2π