

A2.A.41: Functional Notation: Use functional notation to evaluate functions for given values in the domain

1 If $f(x) = x^2 - 2x + 3$, find the value of $f(-2)$.

10 If $f(x) = \sqrt{29 - x^2}$, find $f(-2)$.

2 If $f(x) = 3 - x^2$, find $f(-2)$.

11 If $f(x) = \frac{x}{x^2 - 16}$, what is the value of $f(-10)$?

1) $-\frac{5}{2}$

2) $-\frac{5}{42}$

3) $\frac{5}{58}$

4) $\frac{5}{18}$

3 If $f(x) = -2x^2 + 6$, find the value of $f(-3)$.

4 If $f(x) = x^2 + 3x - 5$, find the value of $f(3)$.

12 If $f(x) = |x^3 - 3|$, then $f(-1)$ is equivalent to

1) 0

2) 2

3) -2

4) 4

5 If $f(x) = x^3 - 2x$, find $f(-2)$.

6 If $f(x) = x^2 - 3x$, find $f(-1.8)$.

13 Given: the function f defined by $f(x) = 3x^2 - 4$.
Which statement is true?

1) $f(0) = 0$

2) $f(-2) = f(2)$

3) $f(5) + f(2) = f(7)$

4) $f(5) \cdot f(2) = f(10)$

7 If $f(x) = 2x^3 + 4x^2$, find $f(-3)$.

8 If $f(x) = (2x)^2$, find $f(-4)$.

14 If $f(x) = 3x - 4$ and $g(x) = x^2$, find the value of $f(3) - g(2)$.

9 If $f(x) = \sqrt{25 - x^2}$, find $f(3)$.

15 If $g(x) = \left(ax\sqrt{1-x}\right)^2$, express $g(10)$ in simplest form.

16 If $f(x) = \frac{x-4}{x+4}$, then $f(4a)$ equals

- 1) $\frac{a-1}{a+1}$
- 2) $\frac{a+1}{a-1}$
- 3) $\frac{4a-1}{4a+1}$
- 4) $\frac{4a+1}{4a-1}$

17 If $f(x) = \frac{x-2}{x+1}$, then $f(n+1)$ is equal to

- 1) $-\frac{1}{2}$
- 2) $\frac{n+1}{n-2}$
- 3) $\frac{n-1}{n+2}$
- 4) $\frac{n-2}{n+1}$

18 If $f(x) = x^2 - 3$, then $f(a-b)$ is equivalent to

- 1) $a^2 - b^2 - 3$
- 2) $a^2 - 2ab - b^2 - 3$
- 3) $a^2 - 2ab + b^2 - 3$
- 4) $a^2 + b^2 - 3$

19 If $f(x) = 4x^2 - x + 1$, then $f(a+1)$ equals

- 1) $4a^2 - a + 6$
- 2) $4a^2 - a + 4$
- 3) $4a^2 + 7a + 6$
- 4) $4a^2 + 7a + 4$

20 If $f(x) = kx^2$, and $f(2) = 12$, then k equals

- 1) 1
- 2) 2
- 3) 3
- 4) 4

A2.A.41: Functional Notation: Use functional notation to evaluate functions for given values in the domain**Answer Section**

1 ANS:
11

REF: 088501siii

2 ANS:
-1

REF: 068602siii

3 ANS:
-12

REF: 088603siii

4 ANS:
13

REF: 018701siii

5 ANS:
-4

REF: 068702siii

6 ANS:
8.64

REF: 019904siii

7 ANS:
-18

REF: 010303siii

8 ANS:
64

REF: 069801siii

9 ANS:
4

REF: 069601siii

10 ANS:
5

REF: 060102siii

11 ANS: 2

$$f(10) = \frac{-10}{(-10)^2 - 16} = \frac{-10}{84} = -\frac{5}{42}$$

REF: 061102a2

12 ANS: 4 REF: 019020siii

13 ANS: 2 REF: 089422siii

14 ANS:
1

REF: 080001siii

15 ANS:

$$g(10) = \left(a(10)\sqrt{1-x} \right)^2 = 100a^2(-9) = -900a^2$$

REF: 061333a2

16 ANS: 1 REF: 019517siii

17 ANS: 3 REF: 018616siii

18 ANS: 3 REF: 089525siii

19 ANS: 4

$$\begin{aligned} f(a+1) &= 4(a+1)^2 - (a+1) + 1 \\ &= 4(a^2 + 2a + 1) - a \\ &= 4a^2 + 8a + 4 - a \\ &= 4a^2 + 7a + 4 \end{aligned}$$

REF: 011527a2

20 ANS: 3 REF: 018915siii