ALASKA PRECALCULUS · UNIT 1 · 25 QUESTIONS

Functions and Transformations — Practice Test

This practice test was made by AI and there may be mistakes. If a question or answer looks wrong, use the Flag a mistake button to let Brett know so he can fix it.

1 **If $f(x) = 2x^2 - 3x + 1$, then $f(2)$ is**



A 3

B 5

C 1

D 7

Understand It with Pulse

Flag a mistake

2 **If g(x) = 5 - 3x, then g(-2) is**

A -1

B 11

C 1

D -11

Understand It with Pulse | Flag a mistake

3 **If f(x) = x - 3 and g(x) = 3x, then f(g(4)) is**



A 12

B 15

C 9

D 1

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4 If $f(x) = 2x + 5$ and $g(x) = x^2$, then $g(f(1))$ is

- A 19
- B 49
- C 14
- D 25

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5 The domain of $f(x) = \sqrt{2x - 6}$ is

- A $x \geq 3$
- B $x > 3$
- C $x \leq 3$
- D all real numbers

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6 **The domain of f(x) = 1/x + 5 is**

A all real numbers

B $x \neq 5$

C $x \geq -5$

D $x \neq -5$

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7 **The range of $f(x) = x^2 - 4$ is**

A $y \geq 0$

B $y \geq -4$

C $y > -4$

D $y \leq -4$

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8 **The inverse of f(x) = 3x - 9 is**



A $f^{-1}(x) = \frac{x + 9}{3}$

B $f^{-1}(x) = \frac{x - 9}{3}$

C $f^{-1}(x) = 3x + 9$

D $f^{-1}(x) = \frac{x}{3} - 9$

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9 **The inverse of $f(x) = \frac{x}{4} + 1$ is**

- **A** $f^{-1}(x) = 4x + 1$
- **B** $f^{-1}(x) = \frac{x}{4} - 1$
- **C** $f^{-1}(x) = 4x - 4$
- **D** $f^{-1}(x) = 4x + 4$

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10 **The function $f(x) = x^4 - 3x^2$ is**

- **A** odd
- **B** neither even nor odd
- **C** both even and odd
- **D** even

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11 **The function $f(x) = x^3 + 2x$ is**

A odd

B even

C neither even nor odd

D both even and odd

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12 The vertex of $y = (x + 4)^2 - 3$ is



A (4, -3)

B (-4, 3)

C (-4, -3)

D (4, 3)

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13 **Compared with $y = x^2$, the graph of $y = 3(x - 1)^2$ is stretched vertically by a factor of 3 and**

A shifted left 1 unit

B shifted up 1 unit

C shifted right 1 unit

D shifted down 1 unit

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14 **The graph of $y = f(x + 5) - 2$ is the graph of $y = f(x)$ shifted**

A 5 units right and 2 units up

B 5 units left and 2 units down

C 2 units left and 5 units down

D 5 units right and 2 units down

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15 **The graph of y = -f(x) is the graph of y = f(x) reflected across the**

- **A** x-axis
- **B** y-axis
- **C** line y = x
- **D** origin

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16 **If $f(x) = x^2$ and $g(x) = f(x - 3)$, then g(5) is**

- **A** 25
- **B** 4
- **C** 64
- **D** 8

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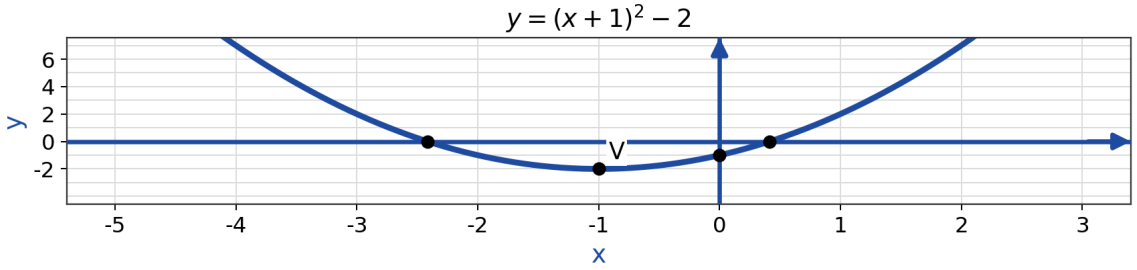
17 **The graph shows the parabola y = (x + 1)² - 2. The vertex is**



A (1, -2)

B (-1, 2)

C (-1, -2)

D (1, 2)

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18 **If f(2) = 11 and f is one to one, then $f^{-1}(11)$ equals**

ANSWER _____

Understand It with Pulse | Flag a mistake

19 **If f(x) = 5x + 2, then the value of x for which f(x) = 27 equals**



ANSWER _____

Understand It with Pulse | Flag a mistake

20 **For f(x) = x² + 1 and g(x) = 2x - 1, the value of (f - g)(3) equals**

ANSWER _____

Understand It with Pulse | Flag a mistake

21 **The x-intercept of f(x) = 4x + 20 equals**

ANSWER _____

Understand It with Pulse | Flag a mistake

22 **The y-intercept of f(x) = -3x + 7 is**

A -3

B 3

C -7

D 7

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23 **Which function is decreasing on its entire domain?**

- **A** $f(x) = 2x + 5$
- **B** $f(x) = x^2$
- **C** $f(x) = -2x + 5$
- **D** $f(x) = |x|$

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24 **The graph of $y = f(x) + 4$ is the graph of $y = f(x)$ shifted**

- **A** 4 units down
- **B** 4 units left
- **C** 4 units right
- **D** 4 units up

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25 If $f(x) = \frac{x - 2}{x + 3}$, then f(4) is

A $\frac{2}{7}$

B $\frac{7}{2}$

C 2

D $\frac{1}{7}$

Understand It with Pulse | Flag a mistake

ANSWER KEY

1.	A	**10.**	D	**19.**	5
2.	B	**11.**	A	**20.**	5
3.	C	**12.**	C	**21.**	-5
4.	B	**13.**	C	**22.**	D
5.	A	**14.**	B	**23.**	C
6.	D	**15.**	A	**24.**	D
7.	B	**16.**	B	**25.**	A
8.	A	**17.**	C		
9.	C	**18.**	2		

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