BRITISH COLUMBIA PRE-CALCULUS 12 (MPREC12) · UNIT B · 25 QUESTIONS

Exponential Functions and Logarithms — 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 **The solution of $\log_2 x = 4$ is**

- **A** $x = 8$
- **B** $x = 16$
- **C** $x = 4$
- **D** $x = 2$

Understand It with Pulse | Flag a mistake

2 **The solution of $2^x = 32$ is**

- **A** x = 6
- **B** x = 5
- **C** x = 4
- **D** x = 16

Understand It with Pulse | Flag a mistake

3 **The domain of y = log(x - 3) is**

- **A** all real x
- **B** all x greater than 0
- **C** all x greater than 3
- **D** all x less than 3

Understand It with Pulse | Flag a mistake

4 **The horizontal asymptote of $y = 2^x + 3$ is**

A $y = 3$

B $y = 0$

C $y = 2$

D $x = 3$

Understand It with Pulse | Flag a mistake

5 **A population of 200 triples every hour. After 2 hours, the population is**



ANSWER _____

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6 **A sample of 100 grams halves every 6 hours. After 12 hours, the mass left is ____ grams.**

ANSWER _____

Understand It with Pulse | Flag a mistake

7 **Bacteria start at 50 and double every 20 minutes. After 60 minutes, the count is**



ANSWER

Understand It with Pulse | Flag a mistake

8 **Doubling a quantity three times multiplies it by**



A 3

B 6

C 8

D 9

Understand It with Pulse | Flag a mistake

9 If $y = 4^x$, then y at $x = \frac{1}{2}$ is

A 4

B 2

C 8

D $\frac{1}{2}$

Understand It with Pulse | Flag a mistake

10 **Investing 1000 dollars at 5 percent per year, compounded yearly, gives after 2 years ____ dollars.**



ANSWER _____

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11 **Shifting $y = 2^x$ right 2 and up 1 gives**

A $y = 2^{x+2} + 1$

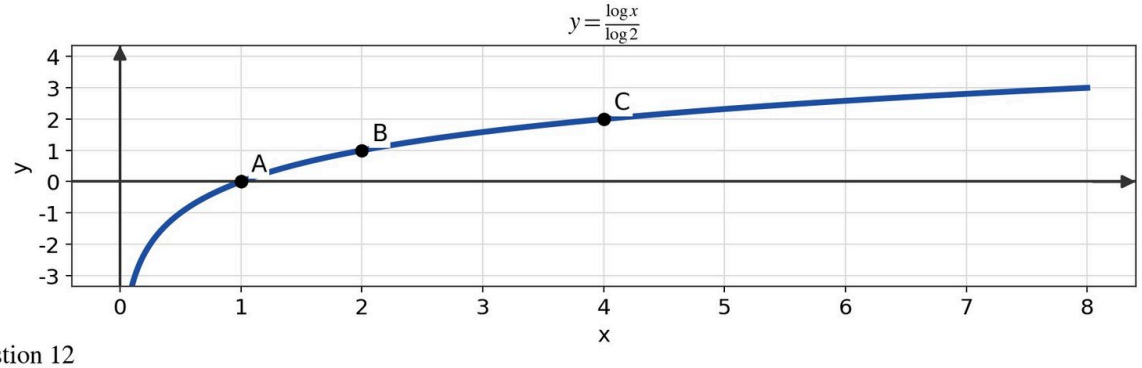
B $y = 2^{x-2} + 1$

C $y = 2^{x-2} - 1$

D $y = 2^{x+2} - 1$

Understand It with Pulse | Flag a mistake

12 **The graph shows $y = \log_2 x$, with points A, B, and C. The x-intercept of this graph is**



Question 12

The graph shows $y = \log_2 x$, with points A, B, and C. The x −intercept of this graph is

A) 2

B) 0

C) 1

D) 4

A 2

B 0

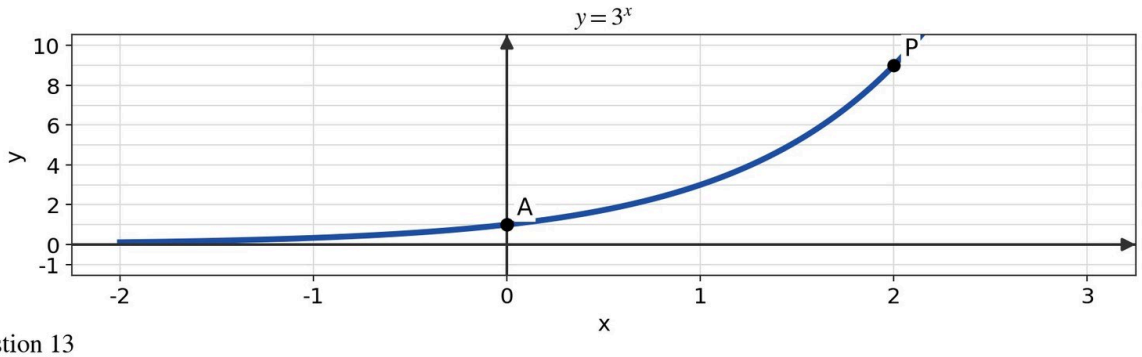
C 1

D 4

Understand It with Pulse

Flag a mistake

13 The graph shows $y = 3^x$, with point P at x = 2. The y-value at P is



Question 13

The graph shows $y = 3^x$, with point P at $x = 2$. The y −value at P is

A) 6

B) 9

C) 8

D) 27

A 6

B 9

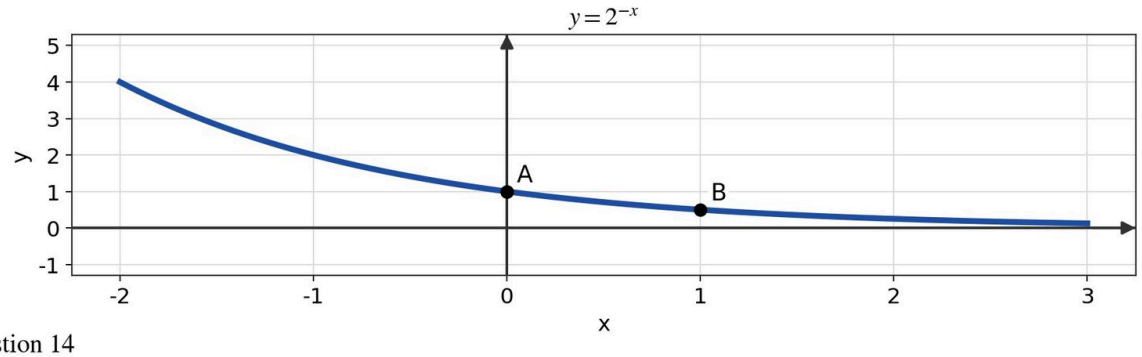
C 8

D 27

Understand It with Pulse

Flag a mistake

14 **The graph shows $y = 2^{-x}$, with points A and B. The value of this function at $x = 1$ is**



Question 14

The graph shows $y = 2^{-x}$, with points A and B. The value of this function at $x = 1$ is

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

B) 2

C) 1

D) -2

A $\frac{1}{2}$

B 2

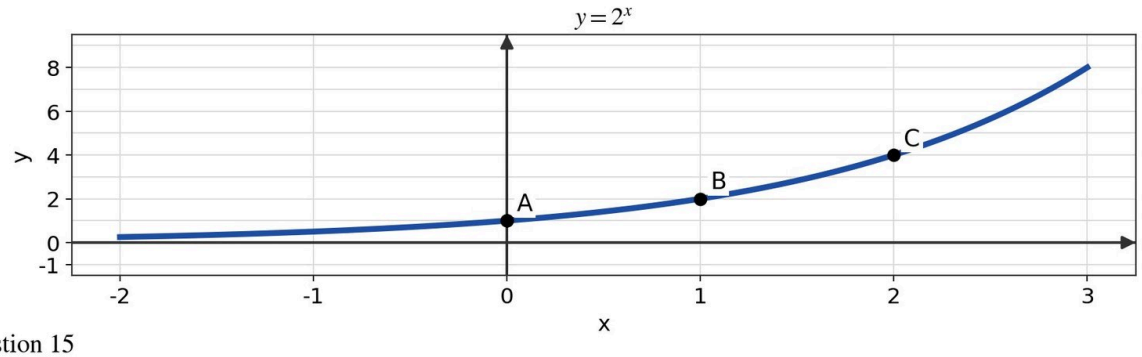
C 1

D -2

Understand It with Pulse

Flag a mistake

15 **The graph shows $y = 2^x$, with points A, B, and C. The y-intercept of this graph is**



Question 15

The graph shows $y = 2^x$, with points A, B, and C. The y −intercept of this graph is

A) 0

B) 2

C) 1

D) 4

A 0

B 2

C 1

D 4

Understand It with Pulse

Flag a mistake

16 **The range of $y = 3^x$ is**

A all y less than 0

B all real y

C all y greater than 3

D all y greater than 0

Understand It with Pulse | Flag a mistake

17 **The solution of log x = 2 (base 10) is**



A x = 2

B x = 20

C x = 10

D x = 100

Understand It with Pulse | Flag a mistake

18 **The solution of log x + log 10 = 3 (base 10) is**

- **A** x = 100
- **B** x = 1000
- **C** x = 10
- **D** x = 30

Understand It with Pulse | Flag a mistake

19 **The value of 2^3 is**

ANSWER _____

Understand It with Pulse | Flag a mistake

20 The solution of $\log_2(x - 1) = 3$ is

- **A** x = 9
- **B** x = 8
- **C** x = 7
- **D** x = 6

Understand It with Pulse | Flag a mistake

21 The solution of $3^{2x} = 81$ is

- **A** x = 2
- **B** x = 4
- **C** x = 3
- **D** x = 8

Understand It with Pulse | Flag a mistake

22 **The domain of $y = \log_2(x + 4)$ is**

A all x less than -4

B all x greater than 4

C all real x

D all x greater than -4

Understand It with Pulse | Flag a mistake

23 The horizontal asymptote of $y = 5^x - 2$ is



A $y = -2$

B $y = 0$

C $y = 5$

D $x = -2$

Understand It with Pulse | Flag a mistake

24 The solution of $\log_5(2x) = 2$ is

- **A** x = 10
- **B** x = 25
- **C** x = 12.5
- **D** x = 5

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25 The solution of $4^x = 64$ is

- **A** x = 4
- **B** x = 3
- **C** x = 2
- **D** x = 16

Understand It with Pulse | Flag a mistake

ANSWER KEY

1. B
2. B
3. C
4. A
5. 1800
6. 25
7. 400
8. C
9. B
10. 1102.5
11. B
12. C
13. B
14. A
15. C
16. D
17. D
18. A
19. 8
20. A
21. A
22. D
23. A
24. C
25. B

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