

اختبر نفسك (4) Check yourself (4)

Mathematics الرياضيات

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11 ADVANCED الصف الحادي عشر متقدم

REVEAL

الفصل الأول T1

Ch (6)

Logarithmic Functions

According to the previous exam

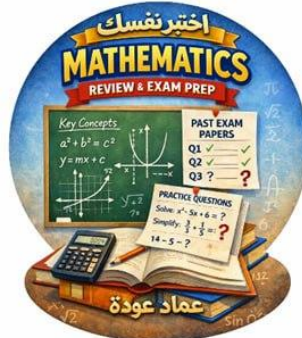
Lesson 6-1

Logarithms and Logarithmic Functions

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2026-2027

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<https://t.me/lomaths11Advanced> <http://www.youtube.com/@imaths2022>

Q1 Write the equation in exponential form

$$\log_8(64)^{\frac{2}{5}} = \frac{4}{5}$$

a) $(8)^{\frac{2}{5}} = (64)^{\frac{4}{5}}$

b) $(64)^{\frac{2}{5}} = (8)^{\frac{4}{5}}$

c) $\left(\frac{4}{5}\right)^8 = (64)^{\frac{4}{5}}$

d) $\left(\frac{2}{5}\right)^8 = (64)^{\frac{4}{5}}$

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Q2 Write the equation in exponential form

$$\log_3 \frac{1}{27} = -3$$

a) $(3)^{\frac{1}{27}} = -3$

b) $(-3)^3 = \frac{1}{27}$

c) $\left(\frac{1}{27}\right)^{-3} = 3$

d) $(3)^{-3} = \frac{1}{27}$

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Q3 Write the equation in exponential form

$$\log_4 32 = \frac{5}{2}$$

a) $(4)^{32} = \frac{5}{2}$

b) $(4)^{\frac{5}{2}} = 32$

c) $\left(\frac{5}{2}\right)^4 = 32$

d) $(23)^{\frac{5}{2}} = 4$

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Q4 Write each equation in logarithmic form

$$3^{-4} = \frac{1}{81}$$

a) $\log_3 \frac{1}{81} = 4$

b) $\log_3 \frac{1}{81} = -4$

c) $\log_{-4} \frac{1}{81} = 3$

d) $\log_4 3 = \frac{1}{81}$

Q5 Write each equation in logarithmic form

$$(64)^{\frac{2}{3}} = 16$$

a) $\log_{\frac{2}{3}} 16 = 64$

b) $\log_{64} \frac{2}{3} = 16$

c) $\log_{16} 64 = \frac{2}{3}$

d) $\log_{64} 16 = \frac{2}{3}$

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Q6 Evaluate

$$\log_{27} 3 =$$

a) -3

b) 3

c) $\frac{1}{3}$

d) $-\frac{1}{3}$

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Q7 Find value of n

$$\log_3 3^{4n-1} = 15$$

a) $n = 3$

b) $n = 4$

c) $n = 15$

d) $n = 3.5$

Q8 Evaluate

$$\log_4 \frac{1}{32} =$$

a) $\frac{5}{2}$

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

c) $\frac{2}{5}$

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

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Q9 Find value of n

$$\log_3 3^{4n-1} = 15$$

- a) $n = 3$
- b) $n = 4$
- c) $n = 15$
- d) $n = 3.5$

Q10 Evaluate Imad Odeh عَماد عودة

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$$\log_{81} 3 =$$

- a) $\frac{1}{4}$
- b) $-\frac{1}{4}$
- c) 4
- d) -4

Q11 Find the value of x makes the equation true.

$$\log_{11}(x^2 + 5x - 108) = \log_{11} 28x$$

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- a) -7
- b) -4
- c) 18
- d) 27

Q12 Find the value of x makes the equation true.

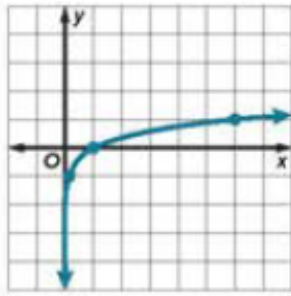
$$\log_{32} x = \frac{7}{5}$$

- a) 2 Imad Odeh عَماد عودة
- b) 14 Imad Odeh عَماد عودة
- c) 44.8 Imad Odeh عَماد عودة
- d) 128

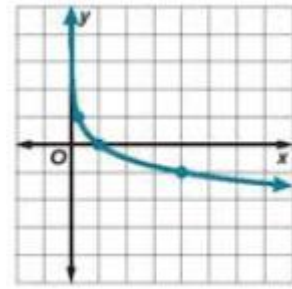
Q13 Determine which graph represents the function

$$\log_{\frac{1}{4}} x$$

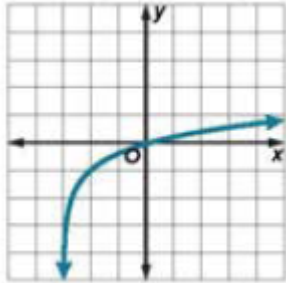
a)



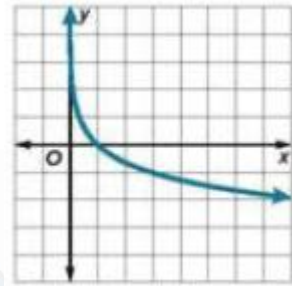
b)



c)



d)



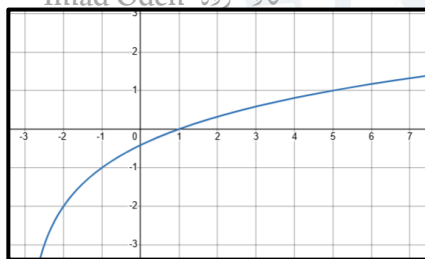
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Q14 Determine which graph represents the function

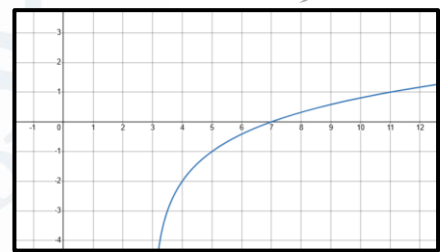
$$f(x) = 2 \log_4(x + 3) - 2$$

a)



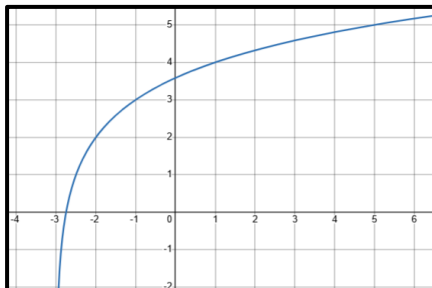
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b)



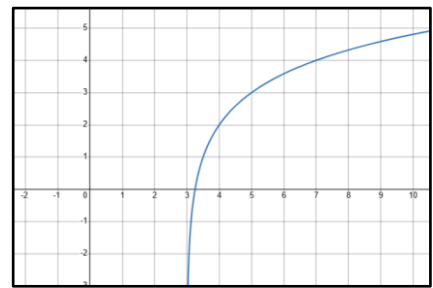
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c)



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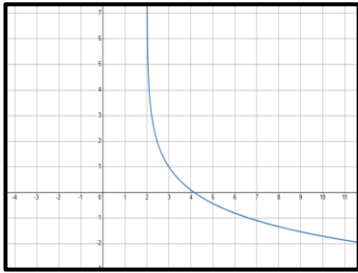
d)



Q15 Determine which graph represents the function

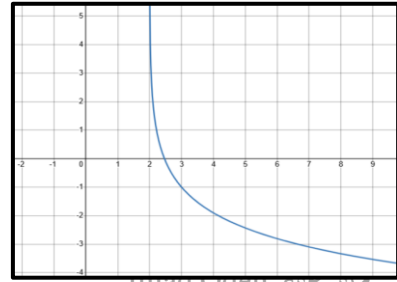
$$f(x) = -3 \log_{10}(x - 2) + 1$$

a)



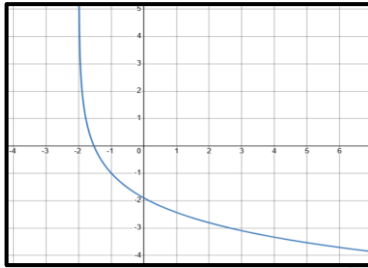
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b)

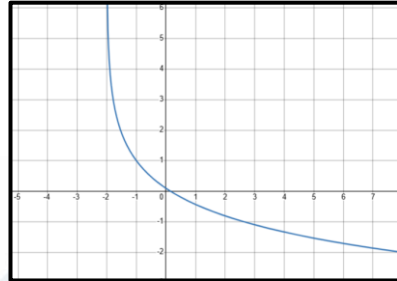


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c)



d)



Q16 Identify the value of k . Write a function for each graph as it relates to $f(x) = \log x$

$$g(x) = f(x) + k$$

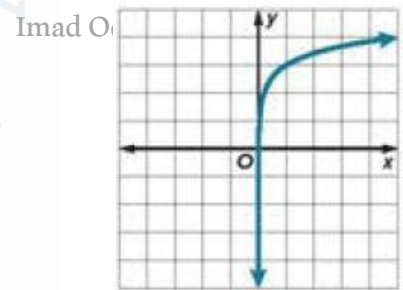
a) $k = 3$ Imad Odeh عماد عودة

b) $k = -3$

c) $k = 2$

d) $k = -2$

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Q17 Identify the value of k . Write a function for each graph as it relates to $f(x) = \log x$

$$g(x) = k \cdot f(x)$$

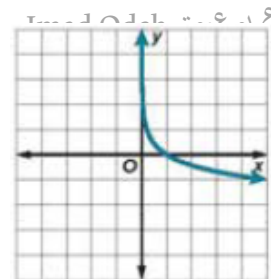
a) $k = -3$ Imad Odeh عماد عودة

b) $k = -2$

c) $k = -1$

d) $k = 1$

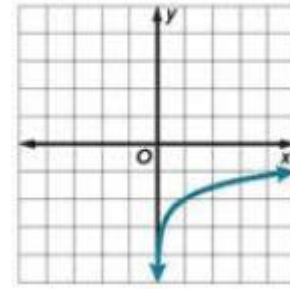
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Q18 Identify the value of k . Write a function for each graph as it relates to $f(x) = \log x$

$$g(x) = k \cdot f(x)$$

- a) $k = 3$
- b) $k = -3$
- c) $k = 2$
- d) $k = -2$



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Q19 Graph

$$f(x) = \log_3(x + 1) - 4$$

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