



مدرسة باحثة البادية – الحلقة الثالثة بنات
Bahethat AL-Badeyah Girl's School – Cycle 3

نموذج اختبار

وفقاً لهيكله اختبار

نهاية الفصل الدراسي الأول

2025-2026

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المادة الدراسية	مدرسة باحثة البادية بنات
الصف	١١ ADVANCED

مديرة المدرسة .. هيام محمد عامر الحمادي

إعداد ومتابعة لجنة جودة الشؤون الأكاديمية

مبادرة .. أعلم واتعلم

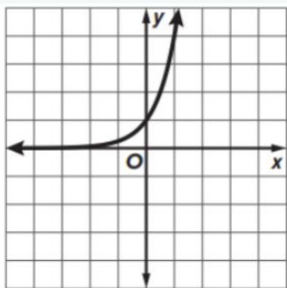


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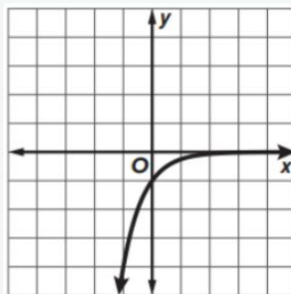
Question 1

Select the correct graph of (3 Points)

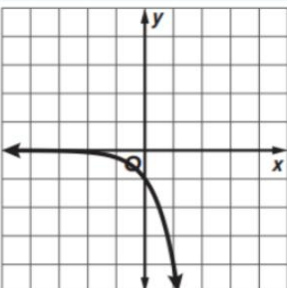
$$f(x) = 4^x$$



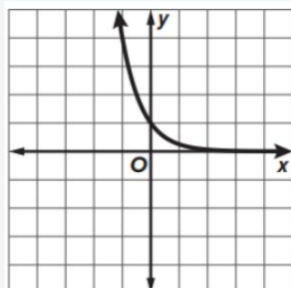
☐ A



☐ D



☐ B



☐ C

Question 2

Determine the domain and range of the function below. (2 Points)

$$g(x) = -2e^{x-3} + 2$$

☐ D : $x > 2$, R : all real numbers

☐ D : all real numbers, R : $y < 2$

☐ D : all real numbers, R : all real numbers

☐ D : all real numbers, R : $y > 2$



Question 3

write the equation in logarithmic form (3 Points)

$$2^9 = 512$$

- ☐ $\log_9 512 = 2$
- ☐ $\log_2 512 = 9$
- ☐ $\log_9 2 = 512$
- ☐ $\log_{512} 9 = 2$

Question 4

Write in terms of common logarithms (2 Points)

$$\log_3 8$$

- ☐ $\frac{\log 3}{\log 8}$
- ☐ $\frac{\log 8}{\log 3}$
- ☐ $\log 8 + \log 3$
- ☐ $\log 8 - \log 3$

Question 5

Write the expression in a single logarithm (4 Points) 

$$3 \ln 4 + 3 \ln 3$$

- ☐ $\ln(1728)$
- ☐ $\ln(24)$
- ☐ $\ln(108)$



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Question 6

An experiment starts with 20 bacteria A cells. After 45 minutes, there are 710 bacteria A cells, Find k. (4 Points)

- ☐ $k = 0.079$
- ☐ $k = 0.012$
- ☐ $k = 35.5$
- ☐ $k = 0.158$

Question 7

Simplify the expression. (3 Points)

$$\frac{x(x-3)(x+6)}{x^2+x-12}$$

- ☐ $\frac{x(x+6)}{x+4}$
- ☐ $\frac{3x(4x+9)}{3x+7}$
- ☐ $\frac{x(x+9)}{x+7}$
- ☐ $\frac{6x(x+1)}{x+4}$

Question 8

Use the LCD to simplify the expression (4 Points)

$$\frac{4x}{x-4} + \frac{x+4}{x+1}$$

- ☐ $\frac{(x-3)(2x+11)}{(x-7)(x+1)}$
- ☐ $\frac{5x^2+2x-32}{(3x-1)(x+4)}$
- ☐ $\frac{7x^2+x-27}{4(x-1)(3x+2)}$
- ☐ $\frac{5x^2+4x-16}{(x-4)(x+1)}$



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Question 9

Find the vertical asymptote in this rational function (3 Points)

$$f(x) = \frac{3x^2 + 8}{2x - 1}$$

- ☐ $x = -\frac{1}{2}$
- ☐ $x = \frac{1}{2}$
- ☐ $x = 1$
- ☐ $x = 2$

Question 10

If y varies jointly as x and z, and y = 18 when x = 2 and z = 3, find y when x is 5 and z is 6 (2 Points)

- ☐ y = 30
- ☐ y = 90
- ☐ y = 72
- ☐ y = 45

Question 11

Solve the following equation (4 Points)

$$\frac{2x+3}{x+1} = \frac{3}{2}$$

- ☐ x = 3
- ☐ x = -1
- ☐ x = -3
- ☐ x = 0



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Question 12

Identify the sample as biased or unbiased:

A group of people waiting in line at a coffee shop are asked whether they prefer tea or coffee. (2 Points)

- ☐ Biased
- ☐ Unbiased

Question 13

From the experiment in the table, Calculate the experimental probability of rolling a 3
(3 Points)

Number on Die	Frequency
1	32
2	18
3	27
4	16
5	33
6	24

- ☐ 50%
- ☐ 18%
- ☐ 16.67%

Question 14

Mr. Rami tracks how many pages five students read over the weekend.

The numbers of pages are: 12, 15, 10, 18, 20

Find the standard deviation (3 Points)

- ☐ 5.20
- ☐ 3.69
- ☐ 4.90
- ☐ 2.10



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Question 15

Write the angle measure in degrees (2 Points)

$$-\frac{9\pi}{2}$$

- ☐ -720°
- ☐ -420°
- ☐ -360°
- ☐ -810°

Question 16

Find the exact value of (2 Points)

$$\tan\left(\frac{\pi}{4}\right)$$

- ☐ 3
- ☐ 2
- ☐ $\sqrt{2}$
- ☐ 1

Question 17

The terminal side of angle θ in standard position intersects the unit circle at each point P, Find $\sin \theta$. (3 Points)

$$P\left(\frac{\sqrt{7}}{4}, \frac{3}{4}\right)$$

- ☐ $\frac{3}{4}$
- ☐ $\frac{\sqrt{7}}{3}$
- ☐ $\frac{\sqrt{7}}{4}$
- ☐ $\frac{3\sqrt{7}}{7}$



Question 18

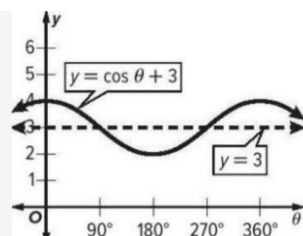
what is the period of the following function. (3 Points)

$$y = 5 \cos(2t)$$

- ☐ 180°
- ☐ 720°
- ☐ 5
- ☐ 360°

Question 19

From the graph, state the vertical shift of the function (4 Points)



- ☐ 4
- ☐ 3
- ☐ 1
- ☐ 2

Question 20

what is the measure of the angle in radians? (4 Points)

$$\cos^{-1}\left(-\frac{\sqrt{2}}{2}\right)$$

- ☐ $\frac{3\pi}{5}$
- ☐ $\frac{3\pi}{4}$
- ☐ π
- ☐ 12π



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Question 21

solve the equation (5 Points)

$$\log_3(x^2 - 8) = 2x$$

Question 22

Use logarithm properties to rewrite the expression (5 Points)

$$\log_2 27$$

- ☐ $5 \log_2(5)$
- ☐ $3 \log_2(3)$
- ☐ $3 \log_2(9)$
- ☐ $\log_2(3) + \log_3(3)$



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Question 23

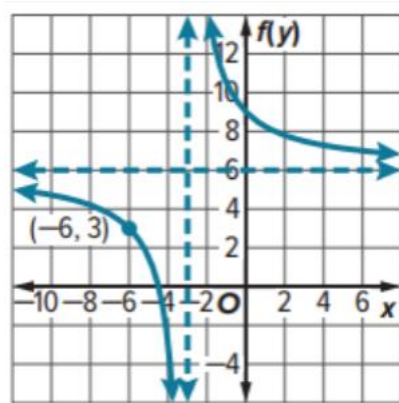
Find h, k and a for the reciprocal function in the graph

$$f(x) = \frac{a}{x-h} + k$$

h=

k=

a=



Question 24

$\sigma = 11.9$, $X = 119.2$, and $\mu = 112.4$

Find the z-value. (5 Points)

Find from the table the area under the normal curve for (5 Points)

$z < -0.57$

z	0	0.01	0.02	0.03	0.04	0.05	0.06	0.07	0.08	0.09
-0	.50000	.49601	.49202	.48803	.48405	.48006	.47608	.47210	.46812	.46414
-0.1	.46017	.45620	.45224	.44828	.44433	.44034	.43640	.43251	.42858	.42465
-0.2	.42074	.41683	.41294	.40905	.40517	.40129	.39743	.39358	.38974	.38591
-0.3	.38209	.37828	.37448	.37070	.36693	.36317	.35942	.35569	.35197	.34827
-0.4	.34458	.34090	.33724	.33360	.32997	.32636	.32276	.31918	.31561	.31207
-0.5	.30854	.30503	.30153	.29806	.29460	.29116	.28774	.28434	.28096	.27760
-0.6	.27425	.27093	.26763	.26435	.26109	.25785	.25463	.25143	.24825	.24510
-0.7	.24196	.23885	.23576	.23270	.22965	.22663	.22363	.22065	.21770	.21476
-0.8	.21186	.20897	.20611	.20327	.20045	.19766	.19489	.19215	.18943	.18673
-0.9	.18406	.18141	.17879	.17619	.17361	.17106	.16853	.16602	.16354	.16109
-1	.15866	.15625	.15386	.15151	.14917	.14686	.14457	.14231	.14007	.13786
-1.1	.13567	.13350	.13136	.12924	.12714	.12507	.12302	.12100	.11900	.11702
-1.2	.11507	.11314	.11123	.10935	.10749	.10565	.10383	.10204	.10027	.99853
-1.3	.09680	.09510	.09342	.09176	.09012	.08851	.08692	.08534	.08379	.08226
-1.4	.08076	.07927	.07780	.07636	.07493	.07353	.07215	.07078	.06944	.06811
-1.5	.06681	.06552	.06426	.06301	.06178	.06057	.05938	.05821	.05705	.05592



Question 25

a.

Choose the expression that represents the asymptotes of the function (5 Points)

$$y = 2 \tan(2x)$$

- ☐ $90 + 180n$
- ☐ $180 + 360n$
- ☐ $45 + 90n$
- ☐ $360 + 720n$

b.

Graph the function