



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

|                 |             |
|-----------------|-------------|
| إعداد المعلم    | احمد ظاهر   |
| المادة الدراسية | MATHEMATICS |
| الصف            | 9 ADVANCE   |

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إعداد ومتابعة لجنة جودة الشؤون الأكاديمية

مبادرة .. أعلم واتعلم

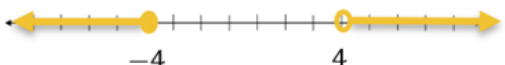
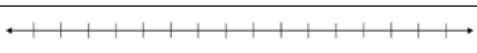


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|   |                                          |                                    |
|---|------------------------------------------|------------------------------------|
| 1 | Solve the inequality $2y + 4 > 2(3 + y)$ |                                    |
|   | A                                        | $\{\emptyset\}$                    |
|   | B                                        | $\{y y > 2\}$                      |
|   | C                                        | $\{y y < 2\}$                      |
|   | D                                        | $\{y y \text{ is a real number}\}$ |

|   |                                                           |           |
|---|-----------------------------------------------------------|-----------|
| 2 | Use properties of equality to solve $\frac{22-w}{3} = -7$ |           |
|   | A                                                         | $w = -43$ |
|   | B                                                         | $w = 43$  |
|   | C                                                         | $w = 12$  |
|   | D                                                         | $w = -12$ |

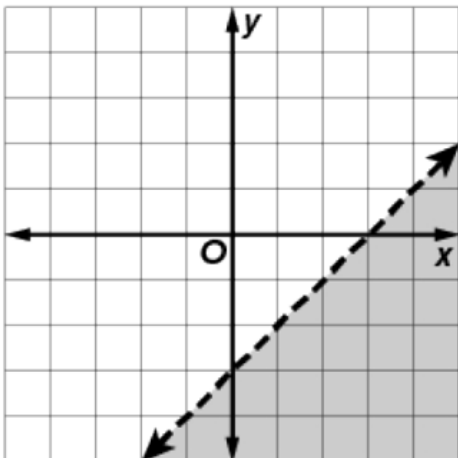
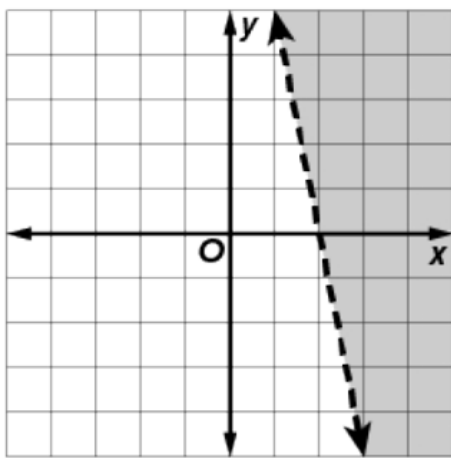
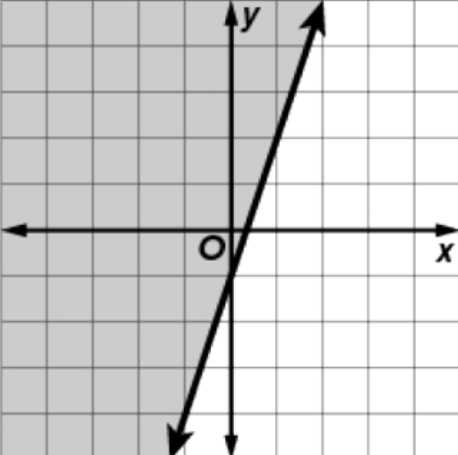
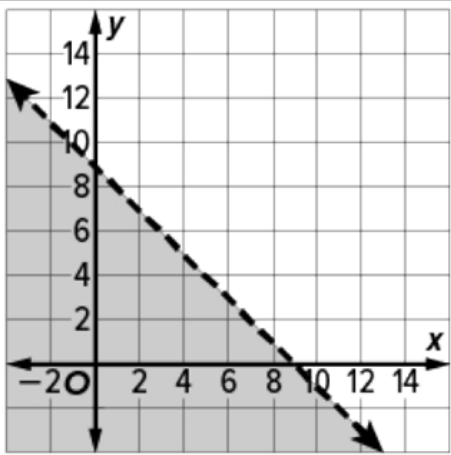
|   |                                                                                                                 |          |
|---|-----------------------------------------------------------------------------------------------------------------|----------|
| 3 | Find the value of $r$ so the line that passes through the points $(r, 3)$ and $(5, 9)$ has a slope of $m = 2$ . |          |
|   | A                                                                                                               | $r = -4$ |
|   | B                                                                                                               | $r = 3$  |
|   | C                                                                                                               | $r = -2$ |
|   | D                                                                                                               | $r = 2$  |

|   |                                                                                            |                                                                                     |   |                                                                                      |
|---|--------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|---|--------------------------------------------------------------------------------------|
| 4 | The graph of the solution set of the inequality<br>$-4a + 13 \geq 29$ and $10 < 6a - 14$ . |                                                                                     |   |                                                                                      |
|   | A                                                                                          |  | C |  |
|   | B                                                                                          |  | D |  |
|   |                                                                                            |                                                                                     |   |                                                                                      |



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|   |                                                                                         |             |
|---|-----------------------------------------------------------------------------------------|-------------|
| 5 | Solve $\frac{2p+3}{3} = \frac{4p-7}{2}$ . If necessary, round to the nearest hundredth. |             |
|   | A                                                                                       | $p = 3.38$  |
|   | B                                                                                       | $p = 3$     |
|   | C                                                                                       | $p = -2.75$ |
|   | D                                                                                       | $p = -3$    |

|                                                      |   |                                                                                     |   |                                                                                      |
|------------------------------------------------------|---|-------------------------------------------------------------------------------------|---|--------------------------------------------------------------------------------------|
| Which of the following is the graph of $5x + y > 10$ |   |                                                                                     |   |                                                                                      |
| 6                                                    | A |   | C |   |
|                                                      | B |  | D |  |



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|   |                                                                              |            |
|---|------------------------------------------------------------------------------|------------|
| 7 | Solve $-\frac{5}{7} = y - 2$ . If necessary, round to the nearest hundredth. |            |
|   | A                                                                            | $y = 0.78$ |
|   | B                                                                            | $y = 1.29$ |
|   | C                                                                            | $y = -3$   |
|   | D                                                                            | $y = -2.8$ |

|   |                      |              |
|---|----------------------|--------------|
| 8 | Solve $ 2t + 6  = 4$ |              |
|   | A                    | $t = -1$     |
|   | B                    | $t = -5$     |
|   | C                    | $\{1, 5\}$   |
|   | D                    | $\{-5, -1\}$ |

|   |                                                                                                                                                                                                                                                                                        |                |
|---|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------|
| 9 | Toshelle wants to take strength training classes at the community center. She has to pay a one-time enrollment fee of \$25 to join the community center, and then \$45 for each class she wants to take. Write an equation in slope-intercept form for the cost of taking $x$ classes. |                |
|   | A                                                                                                                                                                                                                                                                                      | $y = 25x + 45$ |
|   | B                                                                                                                                                                                                                                                                                      | $y = 25x - 45$ |
|   | C                                                                                                                                                                                                                                                                                      | $y = 45x - 25$ |
|   | D                                                                                                                                                                                                                                                                                      | $y = 45x + 25$ |

|    |                                                                                                                                                                 |                        |
|----|-----------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| 10 | Write an equation in slope-intercept form for the line that passes through the point $(0, 2)$ and is perpendicular to the graph of the equation $y = -5x + 8$ . |                        |
|    | A                                                                                                                                                               | $y = \frac{1}{5}x + 2$ |
|    | B                                                                                                                                                               | $y = \frac{1}{5}x + 1$ |
|    | C                                                                                                                                                               | $y = -5x + 2$          |
|    | D                                                                                                                                                               | $y = -5x + 1$          |



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|    |                                                               |     |
|----|---------------------------------------------------------------|-----|
| 11 | Suppose $f(x) = 2\llbracket x - 1 \rrbracket$ , find $f(2.2)$ |     |
|    | A                                                             | 1.4 |
|    | B                                                             | 3.4 |
|    | C                                                             | 4   |
|    | D                                                             | 2   |

|    |                                                                                                                                             |                    |
|----|---------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| 12 | Translate the sentence into a formula.<br>The perimeter $P$ of a triangle is equal to the sum of the lengths of sides $a$ , $b$ , and $c$ . |                    |
|    | A                                                                                                                                           | $P + c = a + b$    |
|    | B                                                                                                                                           | $P = a + b + c$    |
|    | C                                                                                                                                           | $P = 3s$           |
|    | D                                                                                                                                           | $P = 3(a + b + c)$ |

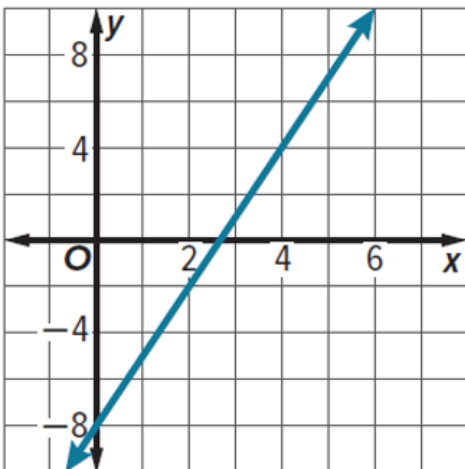
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|----|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
| 13 | One year, the mean mathematics score on the ACT test was 20.9 with a standard deviation of 5.3. Write an absolute value equation to find the maximum and minimum scores within one standard deviation of the mean. |                    |
|    | A                                                                                                                                                                                                                  | $ x - 20.9  < 1$   |
|    | B                                                                                                                                                                                                                  | $ x - 20.9  < 5.3$ |
|    | C                                                                                                                                                                                                                  | $ x - 20.9  = 5.3$ |
|    | D                                                                                                                                                                                                                  | $ x - 5.3  = 20.9$ |



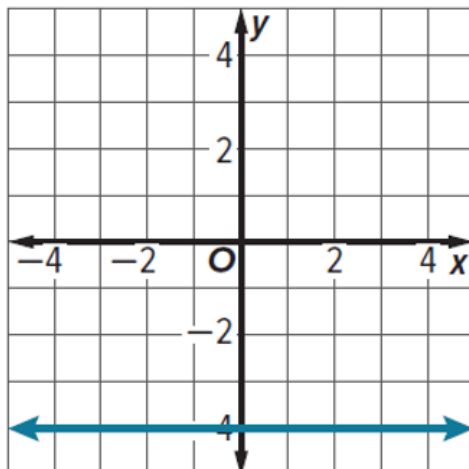
Which of the following is the graph of  $3x + 7y = -28$

14

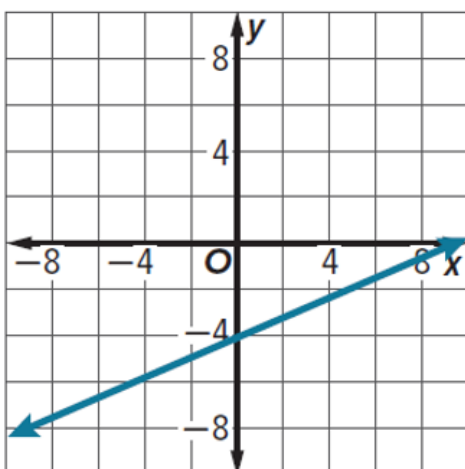
A



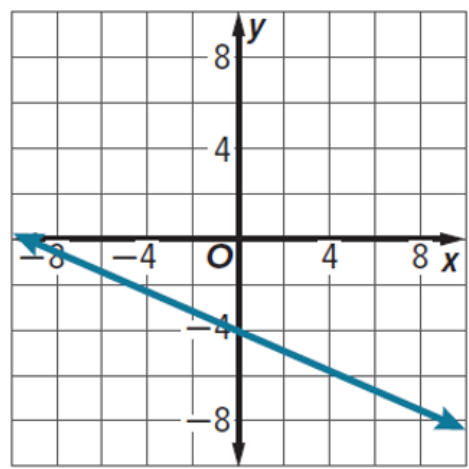
C



B



D



15

Use the given arithmetic sequence  $-11, -15, -19, -23, \dots$  to write an equation and then find the 7th term of the sequence.

A  $a_n = -4n - 7$  ;  $a_7 = -35$

B  $a_n = -4n - 15$  ;  $a_7 = -43$

C  $a_n = 4n - 15$  ;  $a_7 = -35$

D  $a_n = 4n + 15$  ;  $a_7 = -43$



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|    |                                                                                                     |                                                                                    |
|----|-----------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
| 16 | Describe the translation in $g(x) = (x - 9) + 5$ as it relates to the graph of the parent function. |                                                                                    |
|    | A                                                                                                   | 9 units right 5 units down                                                         |
|    | B                                                                                                   | 5 units left 9 units up                                                            |
|    | C                                                                                                   | 5 units right 9 units down                                                         |
| 17 | The graph of the solution <u>set</u> of the inequality $m - 4 < 3$ .                                |                                                                                    |
|    | A                                                                                                   |   |
|    | B                                                                                                   |   |
|    | C                                                                                                   |  |
| 18 | Find the inverse of the function $f(x) = \frac{3}{4}x + 9$                                          |                                                                                    |
|    | A                                                                                                   | $f^{-1}(x) = \frac{4}{3}x - 12$                                                    |
|    | C                                                                                                   | $f^{-1}(x) = \frac{3}{4}x - 12$                                                    |
|    | B                                                                                                   | $f^{-1}(x) = 4x - 3$                                                               |
| 19 | Write an equation of the line that passes through the points $(-4, -2)$ , $(4, 0)$                  |                                                                                    |
|    | A                                                                                                   | $y = 4x + 16$                                                                      |
|    | B                                                                                                   | $y = 4x - 16$                                                                      |
|    | C                                                                                                   | $y = \frac{1}{4}x - 1$                                                             |
|    | D                                                                                                   | $y = \frac{1}{4}x - 2$                                                             |



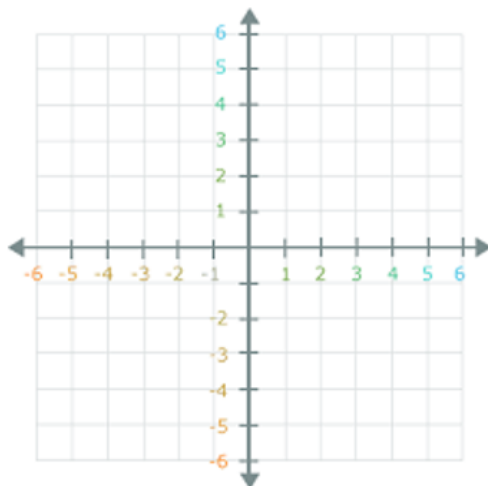
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|    |                                                                                                                                                   |           |
|----|---------------------------------------------------------------------------------------------------------------------------------------------------|-----------|
| 20 | Solve $2(x - 3) < 3(2x + 2)$                                                                                                                      |           |
|    | A                                                                                                                                                 | $x < -12$ |
|    | B                                                                                                                                                 | $x < -3$  |
|    | C                                                                                                                                                 | $x > 0$   |
|    | D                                                                                                                                                 | $x > -3$  |
| 21 | Solve the equation $8q + 12 = 4(3 + 2q)$ and state whether the equation has <i>one solution</i> , <i>no solution</i> , or is an <i>identity</i> . |           |
|    |                                                                                                                                                   |           |



22

Graph the equation  $x = 5y + 5$  by using the  $x$ -and  $y$ -intercepts.



23

Thomas went to the store to buy videogames for \$13.50 each and controllers. The total amount Thomas spent can be represented by  $c = 13.50g + p$ , where  $c$  is the total cost,  $g$  is the number of games he bought, and  $p$  is the cost of the controllers. The controllers cost \$55 and Thomas spent \$136 total.

a. Solve the equation for  $g$ .

b. Find how many games Thomas bought.



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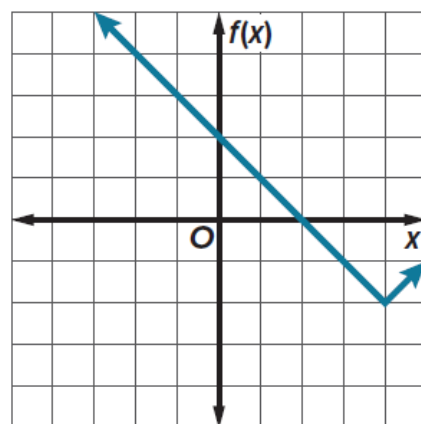
Determine whether the graphs of equations are *parallel*, *perpendicular*, or *neither*.

$$2x + 7y = -35$$

$$4x + 14 = -42$$

25

Use the graph of the function to write its equation.





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26

Solve  $|4x + 2| \geq 10$ . Then graph the solution set.

