

## شكراً لتحميلك هذا الملف من موقع المناهج الإماراتية



## تجميع أسئلة وفق الهيكل الوزاري منهج ريفيل

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تاريخ نشر الملف على موقع المناهج: 06:19:33 2023-11-08 | اسم المدرس: أمل الزيودي

## التواصل الاجتماعي بحسب الصف التاسع المتقدم



## روابط مواد الصف التاسع المتقدم على تلغرام

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## المزيد من الملفات بحسب الصف التاسع المتقدم والمادة رياضيات في الفصل الأول

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# تجميع هيكل مادة الرياضيات للسف التاسع متقدم (ريفيل)

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مدرسة المعرفة (2) لللفة والثانية والتعليم الثانوي بنات (8911)

الفرع المدرسي الأول | النطاق التعليمي 2.3



1	Translate equations into sentences	(19-30)	72
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### Examples 4 and 5

Write a sentence for each equation.

19.  $j + 16 = 35$

20.  $4m = 52$

21.  $7(p + 23) = 102$

22.  $r^2 - 15 = t + 19$

23.  $\frac{2}{5}v + \frac{3}{4} = \frac{2}{3}x^2$

24.  $\frac{1}{3} - \frac{4}{5}z = \frac{4}{3}y^3$

25.  $g + 10 = 3g$

26.  $2(t + 4q) = 2q + 4t$

27.  $4(a + b) = 9a$

28.  $8(2y - 6x) = 4 + 2x$

29.  $\frac{1}{2}(f + y) = f - 5$

30.  $k^2 - n^2 = 2b$





2

Solve equations by using addition and subtraction

(7-18)

81

7.  $18 - (-f) = 91$

8.  $-16 - (-t) = -45$

9.  $\frac{1}{3}v = -5$

10.  $\frac{u}{8} = -4$

11.  $\frac{a}{6} = -9$

12.  $-\frac{k}{5} = \frac{7}{5}$

13.  $\frac{3}{4} = w + \frac{2}{5}$

14.  $-\frac{1}{2} + a = \frac{5}{8}$

15.  $-\frac{t}{7} = \frac{1}{15}$

16.  $-\frac{5}{7} = y - 2$

17.  $v + 914 = -23$

18.  $447 + x = -261$



**Solve each equation for  $x$ . Assume  $a \neq 0$ .**

**18.**  $ax + 3 = 23$

**19.**  $4 = ax - 14$

**20.**  $ax - 5 = 19$

**21.**  $6 + ax = -29$

**22.**  $\frac{8}{ax} - 5 = -3$

**23.**  $18 - ax = 42$

**24.**  $5 = \frac{5}{ax} + 1$

**25.**  $-3 = ax + 11$

**26.**  $-7 = -ax - 16$

Solve each equation. Check your solution.



27.  $3x + 8 = 29$

28.  $\frac{a}{6} - 5 = 9$

29.  $\frac{5r}{2} - 6 = 19$

30.  $\frac{n}{3} - 8 = -2$

31.  $5 + \frac{x}{4} = 1$

32.  $-\frac{h}{3} - 4 = 13$

33.  $5(1 + n) = -5$

34.  $-27 = -6 - 3p$

35.  $-\frac{a}{6} + 5 = 2$



**Solve each equation.**

**11.**  $|7 - 2q| = 3$

**12.**  $|4x - 2| = 26$

**13.**  $|w + 1| = 5$

**14.**  $|n + 2| = -1$

**15.**  $|m - 2| = 2$

**16.**  $|5c - 3| = 1$

**17.**  $|2t + 6| = 4$

**18.**  $|8k - 5| = -4$





Solve each proportion. If necessary, round to the nearest hundredth.

19.  $\frac{4v + 7}{15} = \frac{6v + 2}{10}$

20.  $\frac{9b - 3}{9} = \frac{5b + 5}{3}$

21.  $\frac{2n - 4}{5} = \frac{3n + 3}{10}$

22.  $\frac{2}{g + 6} = \frac{4}{5g + 10}$



23.  $\frac{x}{3} = \frac{3x + 2}{6}$

24.  $\frac{w + 3}{7} = \frac{w - 1}{8}$

25.  $\frac{4q - 3}{5} = \frac{2q + 1}{7}$

26.  $\frac{5}{7k + 4} = \frac{2}{2k - 3}$

27.  $\frac{m + 1}{9} = \frac{m + 2}{2}$

28.  $\frac{j - 5}{2} = \frac{j + 8}{7}$



Find the value of  $r$  so the line that passes through each pair of points has the given slope.

38.  $(12, 10), (-2, r), m = -4$

39.  $(r, -5), (3, 13), m = 8$

40.  $(3, 5), (-3, r), m = \frac{3}{4}$

41.  $(-2, 8), (r, 4), m = -\frac{1}{2}$

42.  $(r, 3), (5, 9), m = 2$

43.  $(5, 9), (r, -3), m = -4$

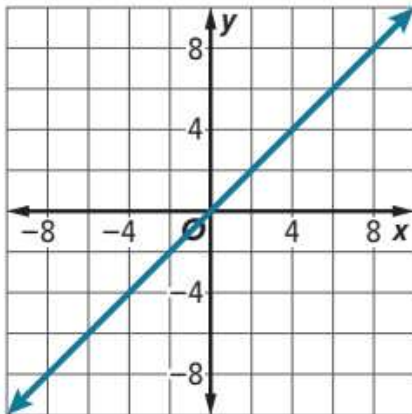
44.  $(r, 2), (6, 3), m = \frac{1}{2}$

45.  $(r, 4), (7, 1), m = \frac{3}{4}$

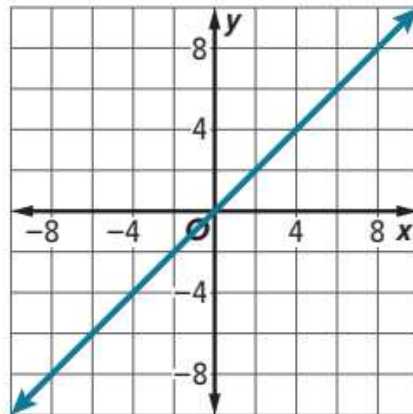


Describe the dilation in each function as it relates to the graph of the parent function.

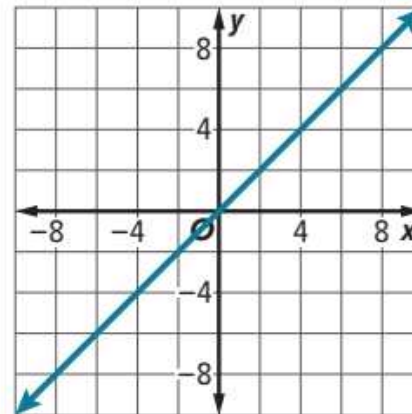
10.  $g(x) = 5(x)$



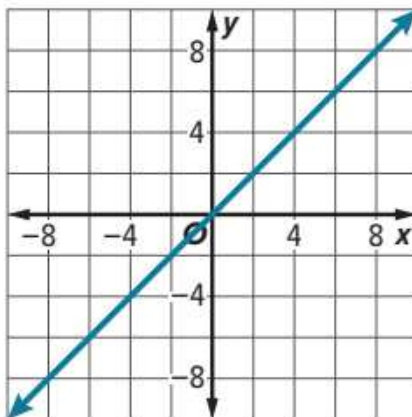
11.  $g(x) = \frac{1}{3}(x)$



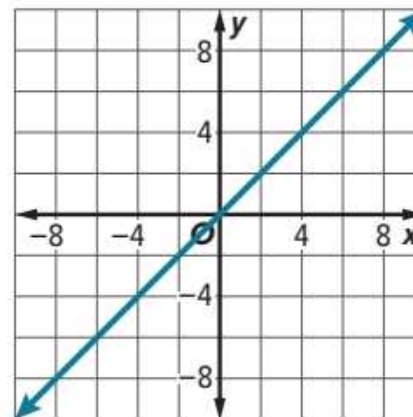
12.  $g(x) = 1.5(x)$



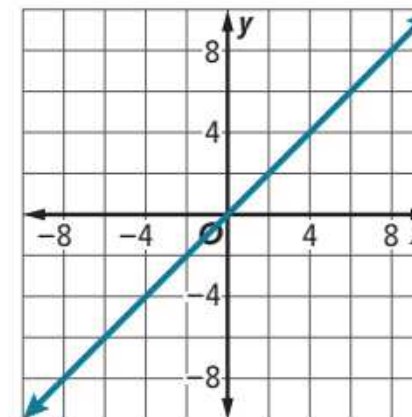
13.  $g(x) = (3x)$



14.  $g(x) = \left(\frac{3}{4}x\right)$



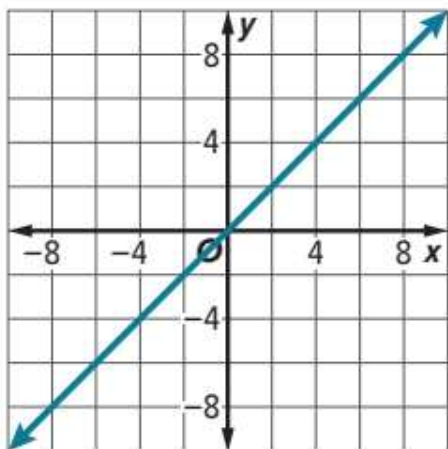
15.  $g(x) = (0.4x)$



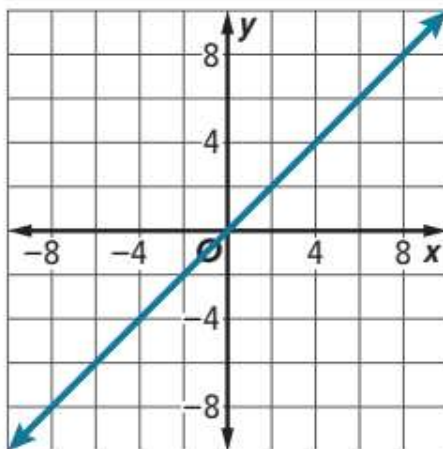


Describe the dilation in each function as it relates to the graph of the parent function.

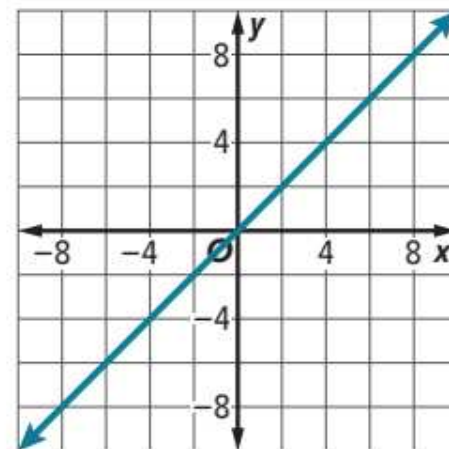
16.  $g(x) = -4(x)$



17.  $g(x) = -8(x)$



18.  $g(x) = -\frac{2}{3}(x)$





8

Apply the arithmetic sequence formula

(19-22)

255

Use the given arithmetic sequence to write an equation and then find the 7th term of the sequence.

19.  $-3, -8, -13, -18, \dots$

20.  $-2, 3, 8, 13, \dots$

21.  $-11, -15, -19, -23, \dots$

22.  $-0.75, -0.5, -0.25, 0, \dots$



**Graph each function. State the domain and range.**

$$1. f(x) = \begin{cases} \frac{1}{2}x - 1 & \text{if } x > 3 \\ -2x + 3 & \text{if } x \leq 3 \end{cases}$$

$$2. f(x) = \begin{cases} 2x - 5 & \text{if } x > 1 \\ 4x - 3 & \text{if } x \leq 1 \end{cases}$$

$$3. f(x) = \begin{cases} 2x + 3 & \text{if } x \geq -3 \\ -\frac{1}{3}x + 1 & \text{if } x < -3 \end{cases}$$



$$4. f(x) = \begin{cases} 3x + 4 & \text{if } x \geq 1 \\ x + 3 & \text{if } x < 1 \end{cases}$$

$$5. f(x) = \begin{cases} 3x + 2 & \text{if } x > -1 \\ -\frac{1}{2}x - 3 & \text{if } x \leq -1 \end{cases}$$

$$6. f(x) = \begin{cases} 2x + 1 & \text{if } x < -2 \\ -3x - 1 & \text{if } x \geq -2 \end{cases}$$





**Describe the translation in  $g(x)$  as it relates to the graph of the parent function.**

1.  $g(x) = |x| - 5$

2.  $g(x) = |x + 6|$

3.  $g(x) = |x - 2| + 7$

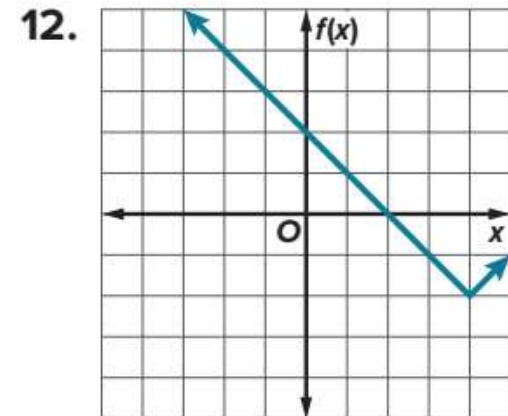
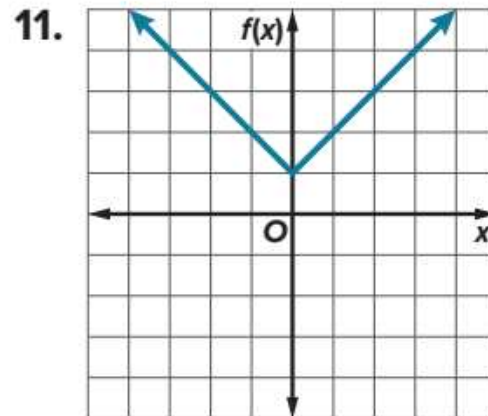
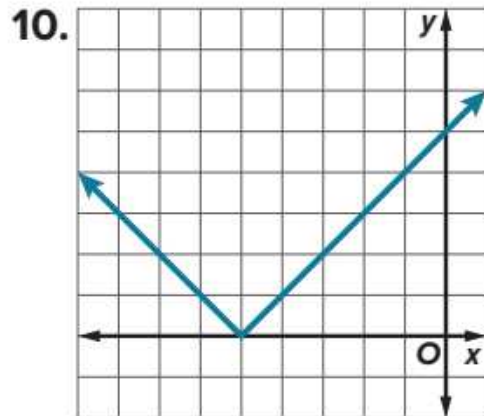
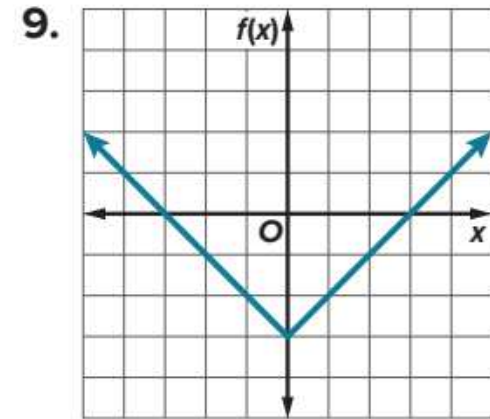
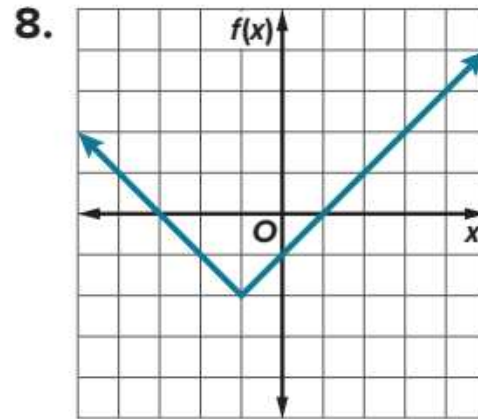
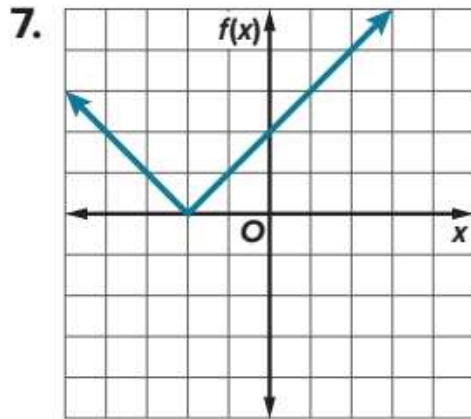
4.  $g(x) = |x + 1| - 3$

5.  $g(x) = |x| + 1$

6.  $g(x) = |x - 8|$



Use the graph of the function to write its equation.





11	Write an equation of a line in slope-intercept form given the slope and one point	(1-6)	291
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**Write an equation of the line that passes through the given point and has the given slope.**

1.  $(4, 2)$ ; slope  $\frac{1}{2}$

2.  $(3, -2)$ ; slope  $\frac{1}{3}$

3.  $(6, 4)$ ; slope  $-\frac{3}{4}$

4.  $(-5, 4)$ ; slope  $-3$

5.  $(4, 3)$ ; slope  $\frac{1}{2}$

6.  $(1, -5)$ ; slope  $-\frac{3}{2}$



12

find inverses of linear functions

(16-21)

332

Find the inverse of each function.

16.  $f(x) = 8x - 5$

17.  $f(x) = 6(x + 7)$

18.  $f(x) = \frac{3}{4}x + 9$

19.  $f(x) = -16 + \frac{2}{5}x$

20.  $f(x) = \frac{3x + 5}{4}$

21.  $f(x) = \frac{-4x + 1}{5}$



13

Solve linear inequalities by using subtraction

(21-30)

347

21.  $11 + m \geq 15$

22.  $h - 26 < 4$

23.  $8 \leq r - 14$

24.  $-7 > 20 + c$

25.  $2a \leq -4 + a$

26.  $z + 4 \geq 2z$



13

Solve linear inequalities by using subtraction

(21-30)

347

27.  $w - 5 \leq 2w$

28.  $3y \leq 2y - 6$

29.  $6x + 5 \geq 7x$

30.  $-9 + 2a < 3a$



14

Solve multi-step linear inequalities.

(16-27)

354

**Solve each inequality. Then graph the solution on a number line.**

**16.**  $-3(7n + 3) < 6n$

**17.**  $21 \geq 3(a - 7) + 9$

**18.**  $2y + 4 > 2(3 + y)$

**19.**  $3(2 - b) < 10 - 3(b - 6)$

**20.**  $7 + t \leq 2(t + 3) + 2$

**21.**  $8a + 2(1 - 5a) \leq 20$



14

Solve multi-step linear inequalities.

(16-27)

354

**Solve each inequality. Check your solution.**

**22.**  $2(x - 4) \leq 2 + 3(x - 6)$

**23.**  $\frac{2x - 4}{6} \geq -5x + 2$

**24.**  $5.6z + 1.5 < 2.5z - 4.7$

**25.**  $0.7(2m - 5) \geq 21.7$





14

Solve multi-step linear inequalities.

(16-27)

354

**Solve each inequality. Check your solution.**

**26.**  $2(-3m - 5) \geq -28$

**27.**  $-6(w + 1) < 2(w + 5)$



**Solve each compound inequality. Then graph the solution set.**

1.  $f - 6 < 5$  and  $f - 4 \geq 2$

2.  $n + 2 \leq -5$  and  $n + 6 \geq -6$

3.  $y - 1 \geq 7$  or  $y + 3 < -1$

4.  $t + 14 \geq 15$  or  $t - 9 < -10$



**Solve each compound inequality. Then graph the solution set.**

5.  $-5 < 3p + 7 \leq 22$

6.  $-3 \leq 7c + 4 < 18$

7.  $5h - 4 \geq 6$  and  $7h + 11 < 32$

8.  $22 \geq 4m - 2$  or  $5 - 3m \leq -13$



**Solve each compound inequality. Then graph the solution set.**

**9.**  $-y + 5 \geq 9$  or  $3y + 4 < -5$

**10.**  $-4a + 13 \geq 29$  and  $10 < 6a - 14$

**11.**  $3b + 2 < 5b - 6 \leq 2b + 9$

**12.**  $-2a + 3 \geq 6a - 1 > 3a - 10$



**Solve each compound inequality. Then graph the solution set.**

**13.**  $10m - 7 < 17m$  or  $-6m > 36$

**14.**  $5n - 1 < -16$  or  $-3n - 1 < 8$

**15.**  $m + 3 \geq 5$  and  $m + 3 < 7$

**16.**  $y - 5 < -4$  or  $y - 5 \geq 1$



**Solve each equation and state whether the equation has *one solution*, *no solution*, or is an *identity*.**

**25.**  $-6y - 3 = 3 - 6y$

**26.**  $\frac{1}{2}(x + 6) = \frac{1}{2}x - 9$

**27.**  $8q + 12 = 4(3 + 2q)$

**28.**  $21(x + 1) - 6x = 15x + 21$



**Solve each equation and state whether the equation has *one solution*, *no solution*, or is an *identity*.**

**29.**  $12y + 48 - 4y = 8(y - 6)$

**30.**  $8(z + 6) = 4(2z + 12)$

**31.**  $2a + 2 = 3(a + 2)$

**32.**  $\frac{1}{4}x + 5 = \frac{1}{4}x$



**Solve each equation and state whether the equation has *one solution*, *no solution*, or is an *identity*.**

**33.**  $7(c + 9) = 7c + 63$

**34.**  $4k + 3 = \frac{1}{4}(8k + 16)$

**35.**  $3b - 13 + 4b = 7b + 1$

**36.**  $\frac{1}{2}(\frac{1}{2}m - 8) = \frac{1}{4}(m - 16)$





**Graph each equation by making a table.**

**1.**  $x = -2$

**2.**  $y = -4$

**3.**  $y = -8x$

**4.**  $3x = y$

**5.**  $y - 8 = -x$

**6.**  $x = 10 - y$



17	Graph linear functions by making tables of values	(1-8)	215
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**Graph each equation by making a table.**

**7.**  $y = \frac{1}{2}x + 1$

**8.**  $y + 2 = \frac{1}{4}x$



### Example 3 Constant Rate of Change

**Determine whether the function is linear. If it is, state the rate of change.**

Find the changes in the  $x$ -values and the changes in the  $y$ -values.

Notice that the rate of change for each pair of points shown is  $-\frac{2}{3}$ .

The rates of change are constant, so the function is linear. The rate of change is  $-\frac{2}{3}$ .

$x$	$y$
11	-5
8	-3
5	-1
2	1
-1	3

### Example 4 Rate of Change

**Determine whether the function is linear. If it is, state the rate of change.**

Find the changes in the  $x$ -values and the changes in the  $y$ -values.

The rates of change are not constant. Between some pairs of points the rate of change is  $\frac{3}{7}$ , and between the other pairs it is  $\frac{2}{7}$ . Therefore, this is not a linear function.

$x$	$y$
22	-4
29	-1
36	1
43	4
50	6



19	Solve equations for specific variables	(7-18)	124,125
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**Solve each equation or formula for the variable indicated.**

**7.**  $q - r = r$ , for  $r$

**8.**  $4m - t = m$ , for  $m$

**9.**  $7a - b = 15a$ , for  $a$

**10.**  $-5c + d = 2c$ , for  $c$



19	Solve equations for specific variables	(7-18)	124,125
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**Solve each equation or formula for the variable indicated.**

**11.**  $u = vw + z$ , for  $v$

**12.**  $x = b - cd$ , for  $c$

**13.**  $fg - 9h = 10j$ , for  $g$

**14.**  $10m - p = -n$ , for  $m$



19	Solve equations for specific variables	(7-18)	124,125
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15.  $r = \frac{2}{3}t + v$ , for  $t$

16.  $\frac{5}{9}v + w = z$ , for  $v$

17.  $\frac{10ac - x}{11} = -3$ , for  $a$

18.  $\frac{df + 10}{6} = g$ , for  $f$



**Write an equation in point-slope form for the line that passes through the given points.**

**4.**  $(-4, 6), (-2, 22)$

**5.**  $(1, -3), (4, -15)$

**6.**  $(4, -6), (6, -4)$

**7.**  $(3, 3), (6, 7)$



**Solve each compound inequality. Then graph the solution set.**

**10.**  $-4a + 13 \geq 29$  and  $10 < 6a - 14$

**11.**  $3b + 2 < 5b - 6 \leq 2b + 9$

**12.**  $-2a + 3 \geq 6a - 1 > 3a - 10$





**Solve each compound inequality. Then graph the solution set.**

**13.**  $10m - 7 < 17m$  or  $-6m > 36$

**14.**  $5n - 1 < -16$  or  $-3n - 1 < 8$

**15.**  $m + 3 \geq 5$  and  $m + 3 < 7$

**16.**  $y - 5 < -4$  or  $y - 5 \geq 1$