

Algebra 2

0-Review

Take this test as you would take a test in class. When you are finished, check your work against the answers.

0-01

- Solve $2x + 1 = 5x - 3$
- Solve $2 < 2x + 1 < 5$
- Solve for y : $3x + 5y = 8$

0-02

- On Sabbath, Franklin's family likes to walk in the woods. If Franklin walks at a rate of 3.5 mph, how far can he walk in 2 hours?
- A honey bee is collecting pollen from flowers. The table shows how many flowers, f , it has visited in t minutes. If the pattern continues, how many flowers will the bee visit in 8 minutes?

t (min)	1	2	3	4
f (flowers)	6	12	18	24

0-03

- Solve $|2x + 1| = 7$
- Solve $2|x - 6| = 10$
- Solve $|7x - 1| < 15$

0-04

- Find the slope of the line through $(-2, 1)$ and $(-5, 5)$.
- Write the equation of the line with slope = 5 and passes through $(7, 1)$.
- Write the equation of the line that passes through $(0, 7)$ and $(3, -2)$.

0-05

- Graph $y = \frac{2}{3}x - 2$
- Graph $y = -3x$
- Graph $3x - 4y = -12$

0-06

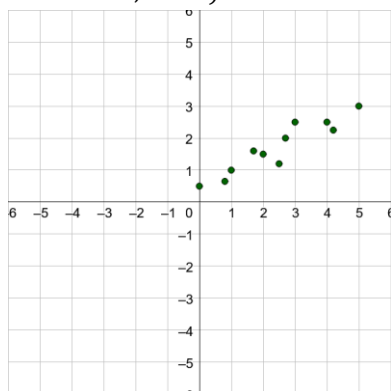
- Describe the transformation. $\frac{1}{3}f(x - 2) + 4$
- Graph $y = |x - 2| - 3$.

0-07

- Graph $y > x$
- Graph $y \leq \frac{1}{2}|x + 1| + 2$.

0-08

- For each scatter plot, a) tell whether the data have a *positive correlation*, a *negative correlation*, or approximately *no correlation*, and b) tell whether the correlation coefficient is closest to -1 , -0.5 , 0 , 0.5 , or 1 .

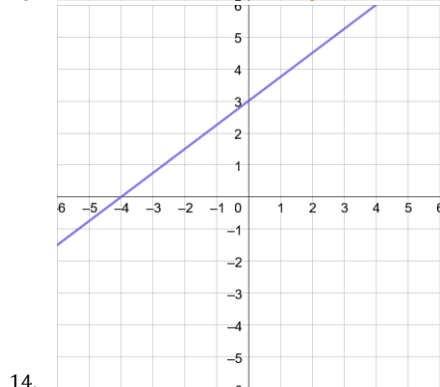
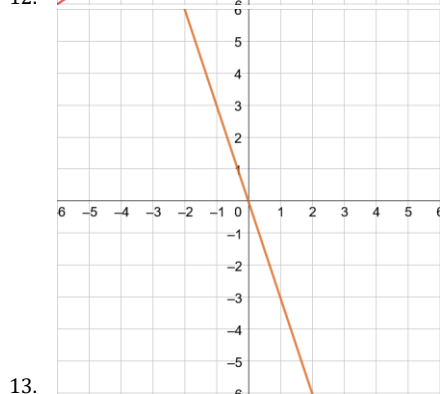
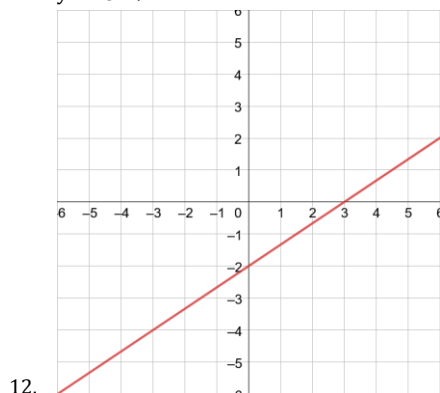


- Draw a scatter plot using the data in the table, then write the equation of the best-fitting line.

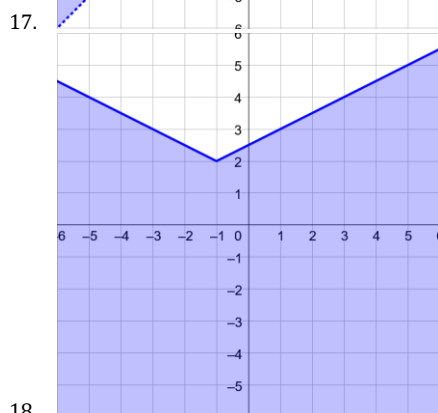
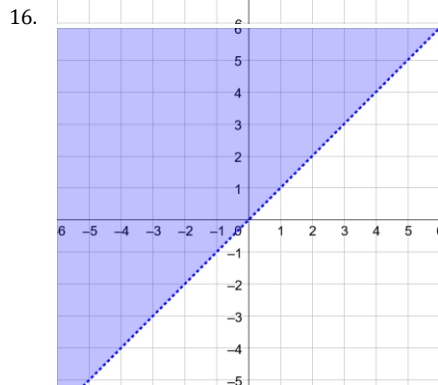
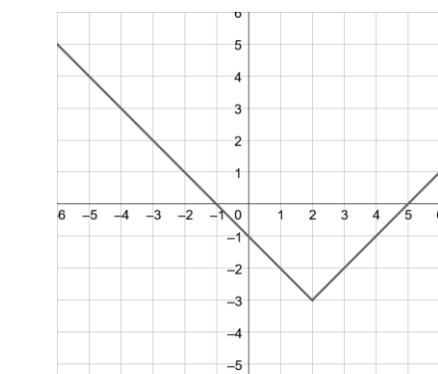
x	0	0.5	1	1.5	2	2.5	3	3.5	4
y	5	4.75	4.5	4.25	4	3.75	3.5	3.25	3



1. $x = \frac{4}{3}$
2. $\frac{1}{2} < x < 2$
3. $y = -\frac{3}{5}x + \frac{8}{5}$
4. 7 miles
5. 48 flowers
6. $x = -4, 3$
7. $x = 1, 11$
8. $-2 < x < \frac{16}{7}$
9. $m = -\frac{4}{3}$
10. $y = 5x - 34$
11. $y = -3x + 7$



15. Vertical shrink by factor of $\frac{1}{3}$, move 2 right and 4 up



19. Positive correlation, $r \approx 0.5$

