

# Test 4 Review: Writing and Graphing Linear Equations and Trend Line Applications Review

Write the equation of the line that satisfies the following.

1.  $m = 2/3$   $b = -5$

\_\_\_\_\_

2. y-intercept = 11 Slope = -2.3

\_\_\_\_\_

3. slope =  $3/4$  passes through  $(-8, 1)$

\_\_\_\_\_

4.  $m = \text{undefined}$  passes through  $(4, -2)$

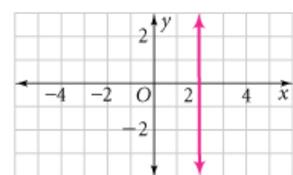
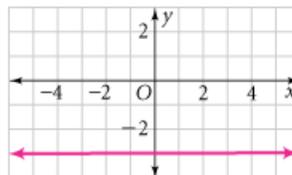
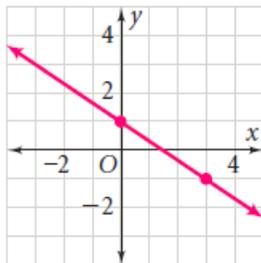
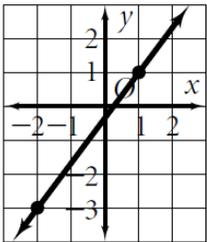
\_\_\_\_\_

5.  $(6, -11)$   $(-2, 13)$

\_\_\_\_\_

6.  $(-6, -5)$   $(3, 1)$

\_\_\_\_\_



7. \_\_\_\_\_

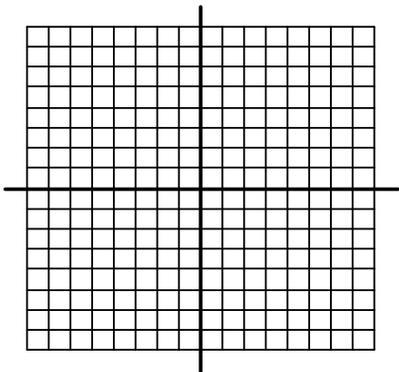
8. \_\_\_\_\_

9. \_\_\_\_\_

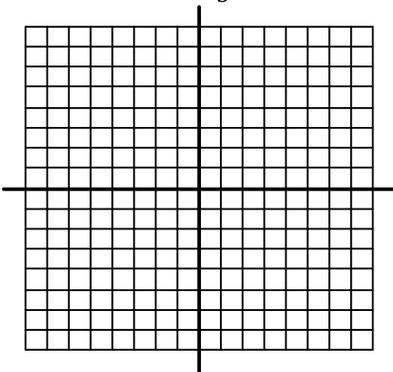
10. \_\_\_\_\_

**Graph each linear equation.**

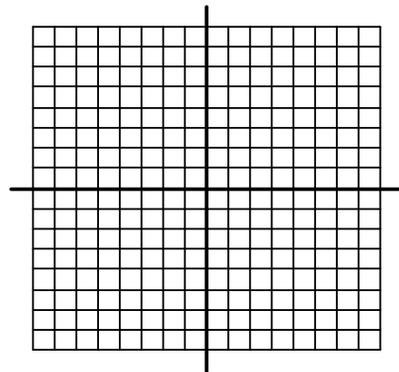
11.  $y = 3x - 2$



12.  $y = -\frac{2}{3}x + 1$



13.  $x = -3$



**Rewrite each equation in slope intercept form.**

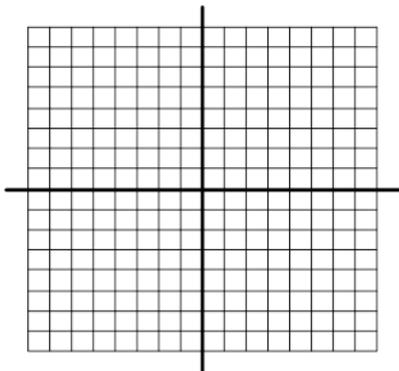
14.  $2x + 3y = 6$

15.  $x - 2y = 11$

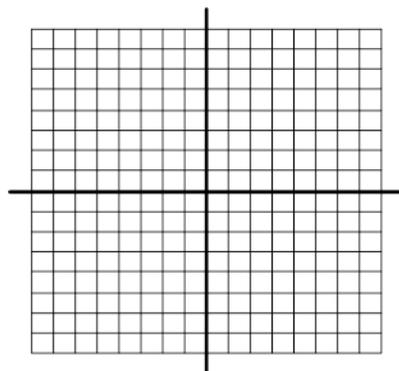
16.  $-2x - y + 4 = 0$

**Find the x- and y- intercepts for each equation. Then graph each line.**

17.  $2x + 3y = 6$



18.  $8 = x - 2y$



x-intercept : \_\_\_\_\_

x-intercept : \_\_\_\_\_

y-intercept: \_\_\_\_\_

y-intercept: \_\_\_\_\_

19. Jeff loves to shoot free throws. The data below shows the number of baskets he makes over time.

Time (sec)	10	20	30	40	50	60	70	80	90
Baskets made	2	5	12	17	21	26	30	33	35

a) Graph the data and draw the trend line.

b) Using your calculator, find the line of best fit:

c) What is the slope for this line?

\_\_\_\_\_

d) What does this slope represent in this situation?

e) Find the y-intercept for this line. \_\_\_\_\_

f) What does the y-intercept represent in this situation?

\_\_\_\_\_

g) Calculate the x-intercept. \_\_\_\_\_

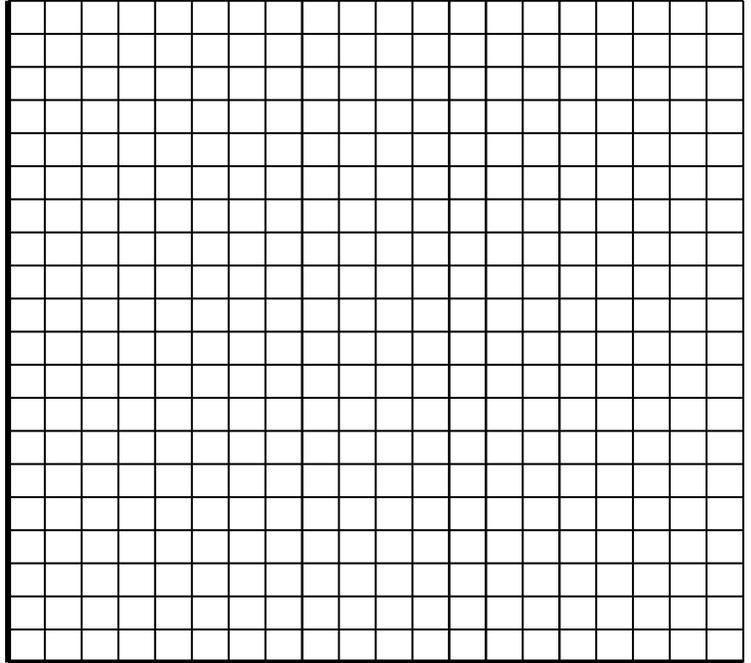
h) What does the x-intercept represent in this situation?

\_\_\_\_\_

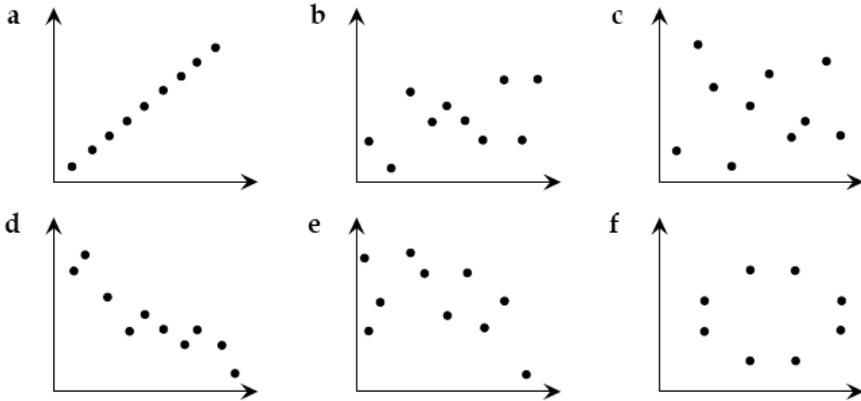
\_\_\_\_\_

i) How long does it take the Jeff to make 50 baskets?

j) If I told you Jeff just practiced shooting free throws for 2 minutes how many baskets did he make?



Matching: Match each graph with the best description of its goodness of fit.



- \_\_\_\_\_ 20. Strong, negative
- \_\_\_\_\_ 21. No correlation
- \_\_\_\_\_ 23. Strong, positive
- \_\_\_\_\_ 24. Weak, positive
- \_\_\_\_\_ 25. Weak negative

The chart above shows the number of calories burned while playing basketball for various lengths of time.

26. Find the best-fit line (Linear model). Round to the nearest hundredth. \_\_\_\_\_

<b>Time (min)</b>	18	24	30	40	48	52	60
<b>Calories Burned</b>	260	280	320	380	400	440	475

27. State the correlation coefficient.  $r =$  \_\_\_\_\_

28. Describe the fit of the equation (use the wording of #20-25) \_\_\_\_\_

29. Interpret the slope using a complete sentence \_\_\_\_\_

30. Interpret the y-intercept using a complete sentence. \_\_\_\_\_

31. Predict the number of calories burned during 50 minutes of play. \_\_\_\_\_

32. Given the following residual plots, is a linear model the best model? Explain.

