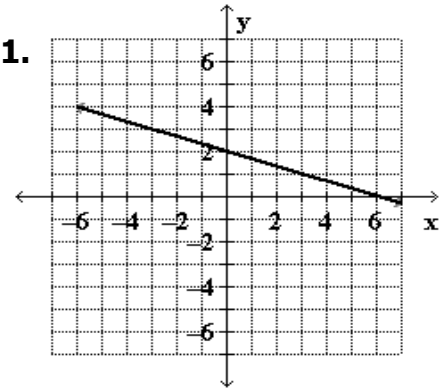
Unit 6 Practice Test: Linear Concepts

Name:_____

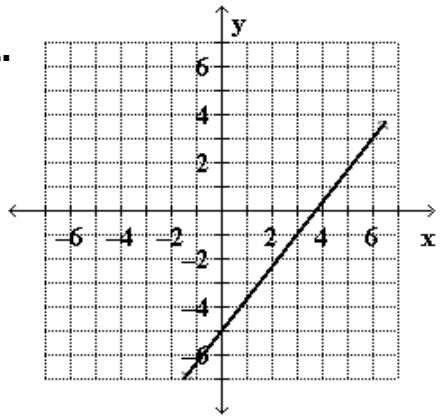
Accelerated 7th Grade Math

For 1–3, create the linear equation for each of the following graphs:

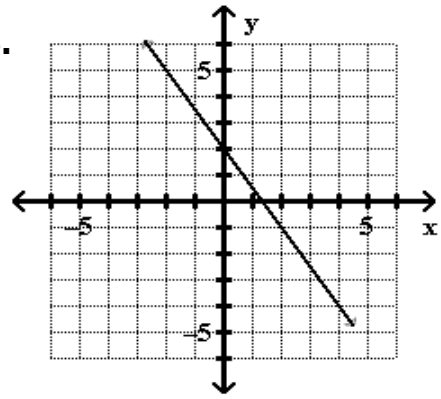
1.



2.



3.



#1 answer: _____ **#2 answer: _____** **#3 answer: _____**

For 4–6, create an equation for each of the following tables:

4.

x	y
4	-3
9	-2
14	-1
19	0

5.

x	y
15	-2
10	2
5	6
0	10
-5	14

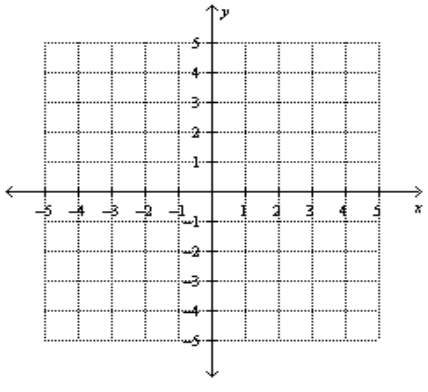
6.

x	y
0	4
-8	8
-16	12
-24	16
-32	20

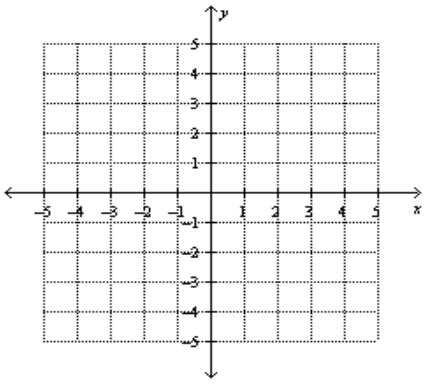
#4 answer: _____ **#5 answer: _____** **#6 answer: _____**

For 7–9, graph each equation. Put arrows on the line and cross both x–axis and y–axis.

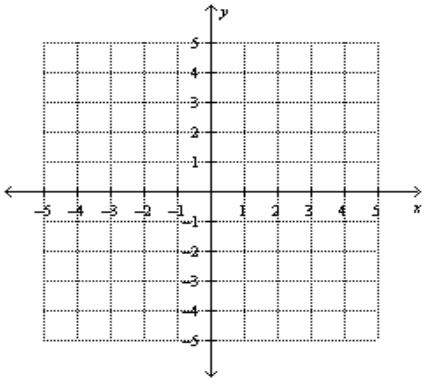
7. $y = -2x + 4$



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



9. $y = 4 - 2x$



For 10 & 11, create the equation for the line that passes through the following points:

10. (10, –7) & (–6, 1)

11. (10, 9) & (5, –6)

#10 answer: _____

#11 answer: _____

For 12–15, use the following information provided. Dan and Kari are both typing a paper for their social studies homework.

Dan:

Minutes (x)	Words Typed (y)
0	0
2	60
4	120
6	180

Kari: *She already has typed 150 words and she continues to type at a rate of 45 words per min.*

12. Who types faster? Circle one: Dan or Kari

13. If both functions were graphed, whose graph would be steeper? Circle one: Dan or Kari

14. Create an equation to represent Dan's situation. #14 answer: _____

15. Create an equation to represent Kari's situation. #15 answer: _____

For 16–23, use the following information. A theme park charges a $2 entrance fee and $4 per ride.

16. Identify the Input: _____ and Output: _____

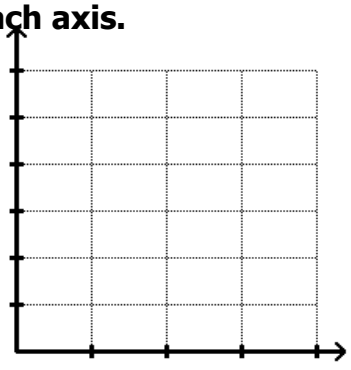
17. Fill–in the table for 0 rides up to 4 rides.

Input (x)					
Output (y)					

18. Draw a graph of the situation. Be sure to label each axis.

Label:

_____



_____

19. Create a linear equation that represents the situation.

#19 answer: _____

20. Use the equation you wrote in #19 to answer to find out how much money will a customer spend at the park if they rode 9 rides? SHOW YOUR WORK FOR FULL CREDIT!!

#20 answer: _____

21. Use the equation you wrote in #19 to answer to find out how many rides they rode if they spent $50 at the park? SHOW YOUR WORK FOR FULL CREDIT!!

#21 answer: _____

22. What is the *slope* of this situation? #22 answer: _____

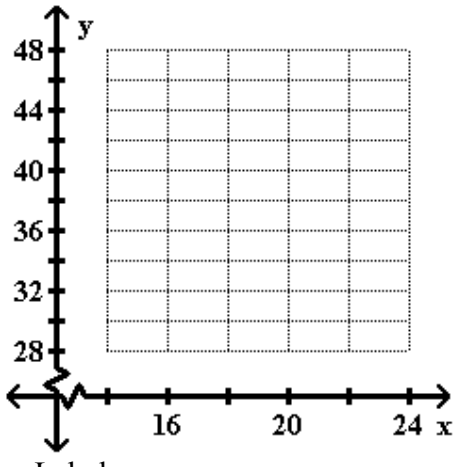
23. What is the *y–intercept* of this situation? #23 answer: _____
Write your answer as an ordered pair.

For 24–32, use the table and coordinate provided. The data shows the comparison of the length and wingspan of a bird.

24. Plot the data from the table. Make sure that you label the x–axis and the y–axis.

Length (in.)	Wingspan (in.)
20	35
20	40
17	37
23	45
15	30
18	38
16	34
18	45

Label: _____



Label: _____

25. Draw a trend line that best fits the scatter plot. ***Make sure you have arrows on your line.***

26. Create an equation for the line of best fit in Slope–Intercept form (y = mx + b). Show your work for full credit.

#26 answer: _____

27. In the equation you wrote in part #26, the slope, or m = _____

28. In the context of this situation of the length and wingspan of a bird, distinguish the meaning this:

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29. In the equation you wrote in part #26, the y–intercept, or b = _____ Write as an ordered pair.

30. In the context of this situation of the length and wingspan of a bird, distinguish the meaning this:

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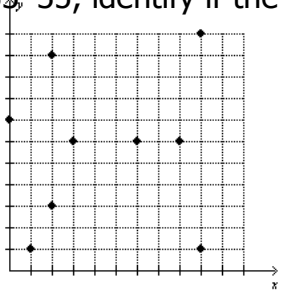
31. Using the equation to #26, if a bird has a length of 35 in, predict the wingspan. Show your work for full credit.

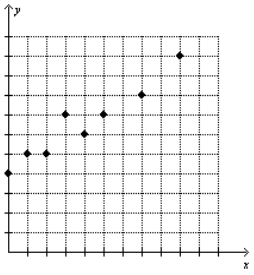
#31 answer: _____

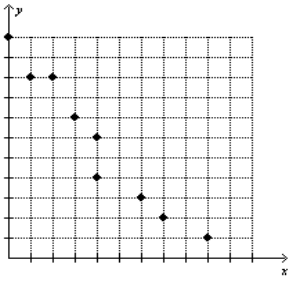
32. Using the equation to #26, if a bird has a wingspan of 27 in, predict the length. Show your work for full credit.

#32 answer: _____

For 33–35, identify if the scatter plot has a positive, a negative, or no association.

33. 

34. 

35. 

#33 answer: _____ #34 answer: _____ #35 answer: _____