

Honors Algebra 1 Midterm Study Guide

Mr. Burns

Find the next three (3) terms in the sequence.

1. 1, 6, 11, 16, 21,...
2. 2, 5, 10, 17, 26,...
3. 7, 6, 4, 1, -3,...

Find the n th and 20th term in the sequence.

4.

1	2	3	4	5	Nth	20
3	7	11	15	19		

Suppose that the cost to order baseball tickets is \$14 per ticket plus \$1.25 handling charge per order (regardless of how many tickets were ordered).

5. How much does an order of 6 tickets cost?

6. Let t represent the number of tickets, and write an equation for the cost, c , of an order of tickets.

7. Give an example of the Associative Property of Addition.

Give an example of a number that would satisfy these rules. (2 pts each)

8. A number that is whole and counting. _____

9. A number that is an integer but not natural. _____

10. A number that is rational, but not an integer. _____

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11. Match the following properties with the correct example. One extra. (2 pts each)

_____ Commutative Property

a. $8(30 + 2) = 240 + 16$

_____ Associative Property

b. $a \geq b, b \geq c, \text{ therefore, } a \geq c$

_____ Identity Property

c. $6 \times \frac{1}{6} = 1$

_____ Distributive Property

d. $(2 + 3) + 6 = 6 + (2 + 3)$

_____ Transitive Property

e. $6 + (1 + 8) = (6 + 1) + 8$

f. $a \times 1 = a$

g. $-11 + 11 = 0$

Let $x = -1$, $y = -4$, $z = 3$. Evaluate each expression. (2 pts each)

12. $|y - x| + x$

13. $x + z^2 \cdot y$

14. $\frac{xyz}{z - y}$

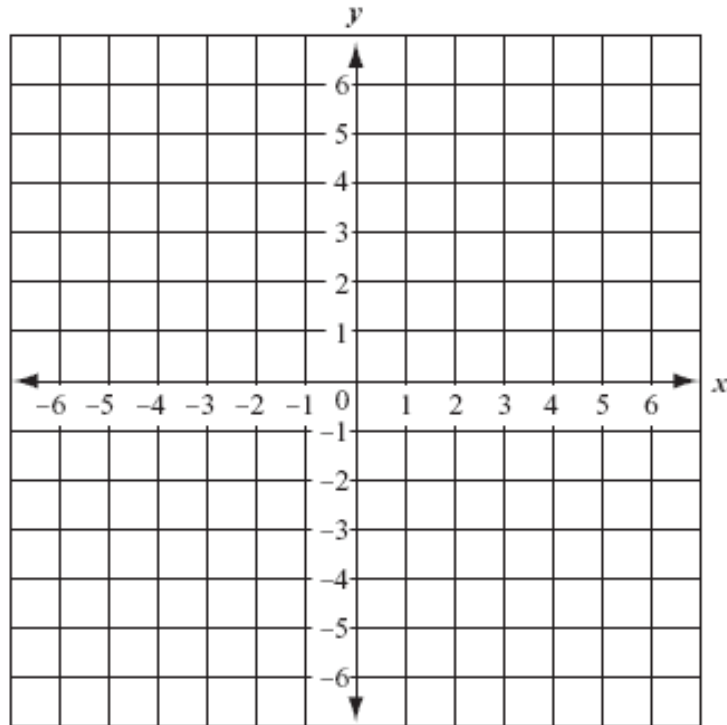
15. Complete the table for the following equation. $y = -4 - |x + 2|$ (5 pts.)

X	-3	-2	-1	0	1	2	3
y							

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16. Graph the absolute value equation. (5 pts.)



Solve each equation.

17. $t - 12 = -21$

18. $\frac{5}{8} = -\frac{2}{7} + r$

19. $6h = 36$

20. $\frac{t}{15} = 4$

21. $-4 = 2 + \frac{x}{6}$

22. $-(x - 2) = -16$

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23. Solve for the indicated variables.

a. $5m - 1 = n$, for m

b. $\frac{3b}{c} = d$, for b

c. $6 - \frac{p}{g} = r$, for p

A science class broke into 4 groups to determine what the boiling point of water is. Here are the results:

Group 1: 102°C

Group 2: 96°C

Group 3: 98°C

Group 4: 102°C

24. What are mean, median, mode, and range of the class data?

Mean= _____

Median= _____

Mode= _____

Range= _____

25. Determine whether each set of ordered pairs is a function. Describe the domain and range for each.

a. $\{(3,4), (3,6), (5,14), (7,14)\}$

b. $\{(4,12), (5,18), (7,12), (8,19)\}$

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Find the slope of the line between the given points.

26. (2,4)(6,10)

27. (0,-1)(3,8)

28. (3,5)(6,5)

29. (-2,7)(-2,-5)

Identify the slope and y-intercept in the following equations.

30. $y=2x+5$ $m=$ _____ $b=$ _____

31. $y = \frac{3}{4}x$ $m=$ _____ $b=$ _____

32. $3x + 2y = 2$ $m=$ _____ $b=$ _____

33. $y - 2 = \frac{1}{2}(x + 4)$ $m=$ _____ $b=$ _____

Identify the slope and one point on the line.

34. $y - 1 = 3(x - 3)$

35. $y - 3 = 5(x - 2)$

36. $y + 2 = -4(x+1)$

Convert #s 34, 35, & 36 into slope-intercept form.

37. _____

38. _____

39. _____

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Find the equation of the line that goes through the point:

40. $(2,5)$ $(-4,8)$

41. $(2,1)$ $(-1,0)$

42. $(0,2)$ $(-1,-1)$

43. Find the equation (slope-intercept form) of the line parallel to the line with a slope of 4 and goes through the point $(1,2)$.

44. Find the equation of the line perpendicular to the line with the slope of 2 and goes through the point $(1,-2)$.

Graph the following equations.

45. $y = 3x - 4$

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

47. $x = 4$

48. $y - 2 = 2(x + 1)$

49. $4x + 2y = 8$

50. $2 = \frac{y}{x}$