T-1 Rev A Review for Trimester 1 Benchmark Exam **Alg 1H**

1. Is $x = -6$ a solution of the equation $23 - 3x = -4x + 17$?

Solve the equations:

2. $5x - 7(3 - 2x) = 36$
3. $\frac{1}{3}x = 7 - \frac{2}{3}x$
4. $x + 23 = 3(2x + 1)$
5. $14 - (6 - 3c) = 4c - c$
6. $3y - 2(y + 19) = 9y - 3(9 - y)$
7. $2(a - 8) + 7 = 5(a + 2) - 3a - 19$
8. Find the slope and y-intercept of the line $4x - 7y = 14$.
9. Find the slope of the line containing the points $(-3, 8)$ and $(5, 2)$.
10. Find the x and y intercepts, sketch the graph, and label the intercepts of the equation $5x - 3y = 30$.
11. Make a table of values for $y = \frac{2}{3}x - 5$. Use the values $-6, -3, 0, 3, 6, 9$ for x.
12. Write the equations of the horizontal and vertical lines that pass through the point $(-2, -7)$.
13. The table of ordered pairs shows the coordinates of two points on the graph of a function. What is the equation that describes the function?

x	y
-2	2
4	-1

14. In 1994 a company had 36 employees. By 1998 the company had grown to 108 employees. Find the average rate of change and label your answer with units.
15. Write in slope-intercept form and sketch the line. $3x - 2y = 12$.
16. Write in slope-intercept form the equation of the line that passes through $(4, -1)$, and $(0, 3)$.
17. Write in slope-intercept form the equation of the line that passes through $(-5, 4)$, and $(-5, -2)$.
18. Write in point-slope form the equation of the line that passes through the point $(4, -9)$ with a slope of $\frac{1}{5}$.
19. Find the slope-intercept form of an equation for the line that passes through $(-1, 2)$ and is parallel to the equation $y = 2x - 3$.
20. Find the slope-intercept form of an equation of the line perpendicular to the line $x - 3y = 5$ and passing through the point $(0, 6)$.
21. Is the relation a function? $(-4, 3)$, $(1, -5)$, $(7, 6)$, $(9, 6)$, $(1, 5)$
22. If $f(x) = 2x^2 + 1$, find $f(-3)$.
23. Identify the domain and range of the function. $(1, 4)$, $(2, -2)$, $(3, -6)$, $(-6, 3)$, $(-3, -6)$.