Solve the following equations.

1) $14 + 6x = 38$

2) $9x + 15 = 1 + 2x$

3) $60 - 2x = 20$

4) $11 + 4x = 35 - 8x$

5) $7(x - 6) = 2x + 18$

6) $6x - 2x + 1 = 4x + 3x - 5$

Solve the following equations

7. $\frac{x}{9}+8=1$

8. $\frac{5x}{3}+6=4$

9. $\frac{5}{6}(x+2)=3$

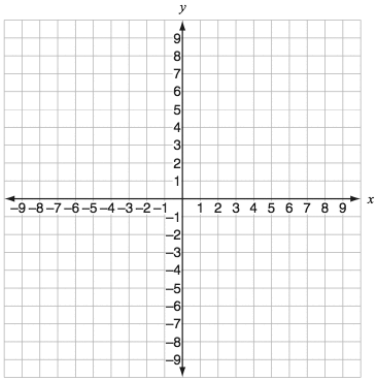
10. $\frac{11}{x}=\frac{3}{7}$

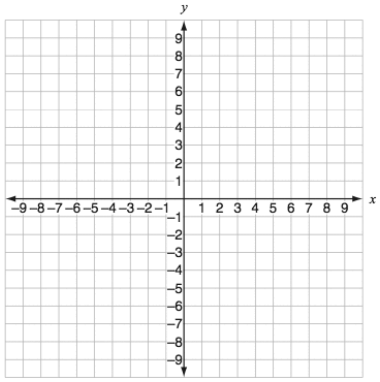
11. $\frac{x+8}{5}=\frac{3}{8}$

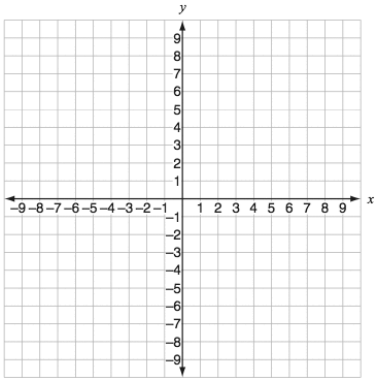
12. $\frac{4x+9}{5x+1}=\frac{8}{7}$

On problems 13-15: Graph the equation. Tell if each graph is increasing or decreasing.

13. $y = \frac{-1}{2}x + 3$ *14.* $5y + 10x = 20$ 15. $y - 2 = 2(x - 3)$



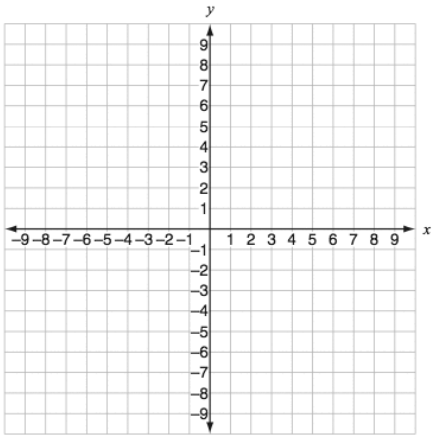




16. What is the domain and range of each graph in problems 13-15.

17. *Solve and graph* the equation

$$6(x - 2y) = 30x + 36$$



18. Solve for y and then complete the table below

$3y + 3(x + 4) = 33$

x	*y*
0	
1	
2	
3	

Solve and graph the following linear inequalities on a number line. Then give the solution in interval notation

19) $4 + 5x > 12 + x$

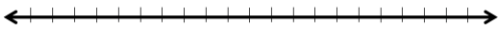
20) $20 - 4x \leq 60 + 4x$

21) $60 - 2x \geq 10$

22) $-2(2x + 1) < 2(3x + 4)$

23) $7x - 5 \geq 65$ or $-3x - 2 \geq -2$

24) $-50 < 7x + 6 < -8$



25. Jessica is earning money by providing a dog grooming service. She pays $40 to rent a room at the local animal hospital. Her profit from a single grooming session is $8 per dog. The function: $P = -40 + 8x$ can be used to determine Jessica's profit P as a function of number of dogs x?

a. How much would Jessica's profit be if she groomed 100 dogs?

b. Solve $-40 + 8x = 40$. What does the value of *x* represent in the context of the problem?

d. Solve $-40 + 8x > 160$. What does the value of *x* represent in the context of the problem?

Solve the equation for the indicated variable.

26. Solve P = 2L + 2W for W

27. Use the work given below to answer the following questions

Andre's Work	Tim's Work
$\frac{C}{2} = \frac{2\pi r}{2}$	$\frac{C}{2} = \frac{2\pi r}{2}$
$(\pi)\frac{C}{2} = r\pi(\pi)$	$\frac{C}{2\pi} = \frac{r\pi}{\pi}$
$\frac{C\pi}{2} = r$	$\frac{C}{2\pi} = r$

a) Who solved the equation correctly?

b) Explain the error that was made by Andre or Tim?