

Slope Intercept form equations

Solve each of these equations for y (e.g. $y = \frac{2}{3}x + 5$, or $y = 7x - 5$)

1. $4x + 2y = 12$ 1. _____

2. $9x + 27y = 81$ 2. _____

3. $6 + 11x - 5y = 9x - 3y + 4$ 3. _____

4. $30 - 6y = 12x$ 4. _____

5. $(y + 3) = -\frac{2}{5}(x - 10)$ 5. _____

Standard Form Equation

Put each equation in the $Ax + By = C$

6. $y = \frac{2}{5}x - 3$ 6. _____

7. $y = -\frac{1}{2}x - 7$ 7. _____

8. $(y + 3) = -\frac{2}{5}(x - 10)$ 8. _____

Write the equation in both standard and slope intercept form.

9. $(5, -2)$
 $(10, -3)$ Slope Int _____

10. $(-3, 3)$
 $(-6, 5)$ Slope Int _____

11. $(-1,3)$
 $m = \frac{-3}{4}$

Standard _____

12. $(2,5)$
 $m = \frac{1}{4}$

Standard _____

13. $(3,-7)$
 $m = \frac{2}{3}$

Point Slope _____

Write each equation in standard form

14. $y = \frac{3}{4}x - 2$

Standard _____

15. $y = \frac{-2}{7}x + 3$

Standard _____

16. $y = -\frac{3}{4}x - 2\frac{1}{4}$

Standard _____

Write each equation in slope intercept form

17. $2x - 5y = 10$

Slope Int _____

18. $7x + 4y = 12$

Slope Int _____

19. $5x - 3y = 19$

Slope Int _____

Write the slope, y intercept as an ordered pair, and x intercept as an ordered pair

20. $2x + 3y = -6$ $m = \underline{\hspace{2cm}}$ $y - \text{int} = \underline{\hspace{2cm}}$ $x - \text{int} = \underline{\hspace{2cm}}$

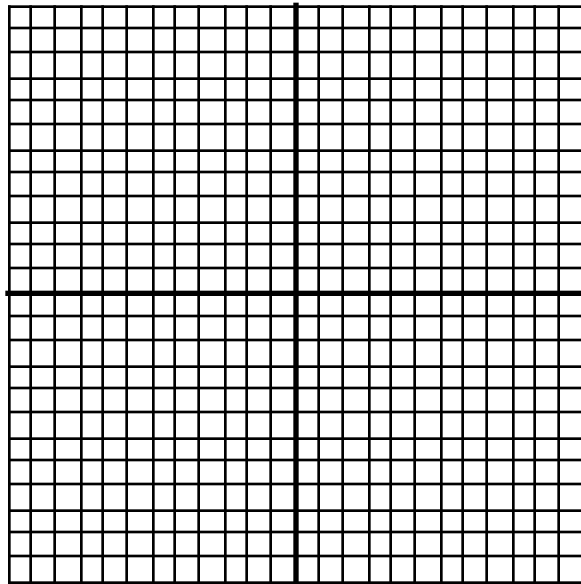
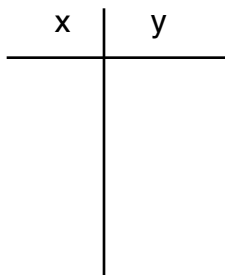
21. $x - 5y = 15$ $m = \underline{\hspace{2cm}}$ $y - \text{int} = \underline{\hspace{2cm}}$ $x - \text{int} = \underline{\hspace{2cm}}$

22. $y = \frac{2}{3}x - 7$ $m = \underline{\hspace{2cm}}$ $y - \text{int} = \underline{\hspace{2cm}}$ $x - \text{int} = \underline{\hspace{2cm}}$

23. $y = \frac{-3}{4}x + 2$ $m = \underline{\hspace{2cm}}$ $y - \text{int} = \underline{\hspace{2cm}}$ $x - \text{int} = \underline{\hspace{2cm}}$

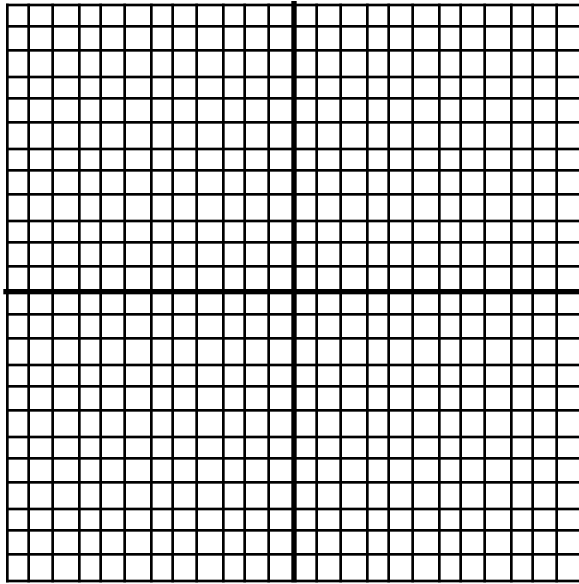
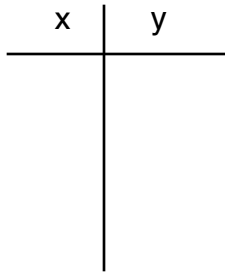
Graph Each of the following

24. $y = \frac{1}{3}x - 5$ $m = \underline{\hspace{2cm}}$ $\frac{\textit{steep_or_shallow}}{\textit{incline_or_decline}}$ $y - \text{int} = \underline{\hspace{2cm}}$



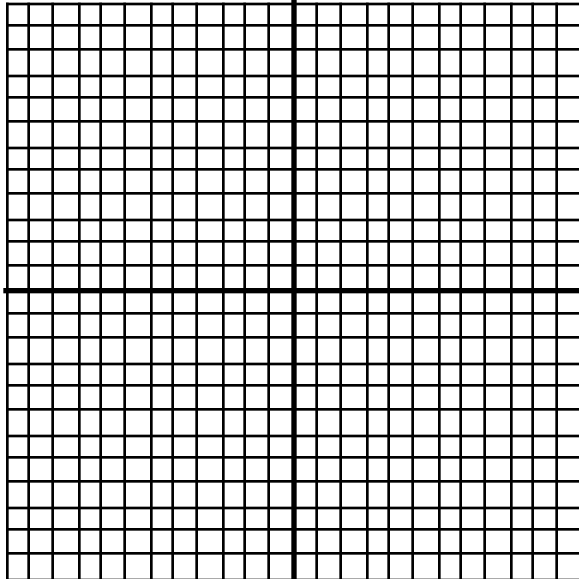
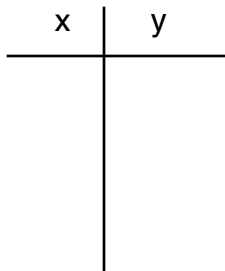
25. $y = \frac{-3}{2}x + 4$

m = _____ $\frac{\text{steep_or_shallow}}{\text{incline_or_decline}}$ _____ y - int = _____



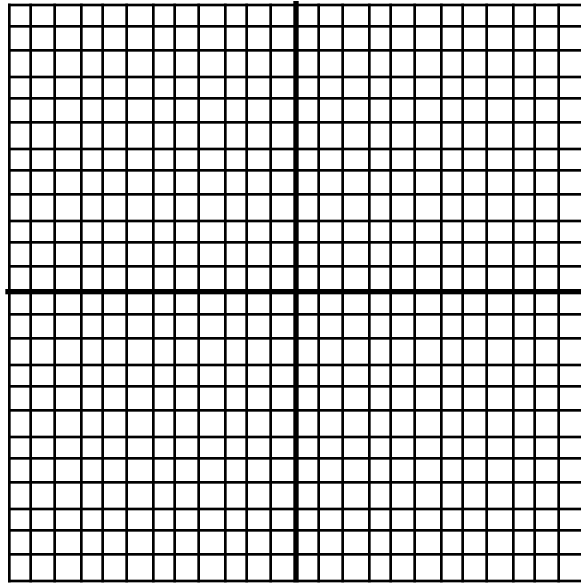
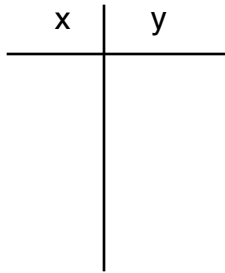
26. $2x - 3y = 9$

m = _____ $\frac{\text{steep_or_shallow}}{\text{incline_or_decline}}$ _____ y - int = _____



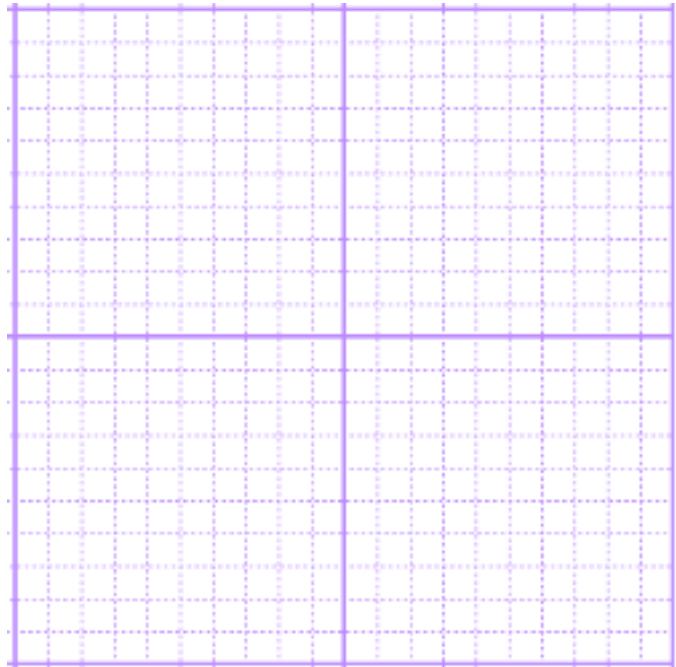
27. $5x + 2y = 14$

$m =$ _____ $\frac{\text{steep_or_shallow}}{\text{incline_or_decline}}$ _____ $y - \text{int} =$ _____

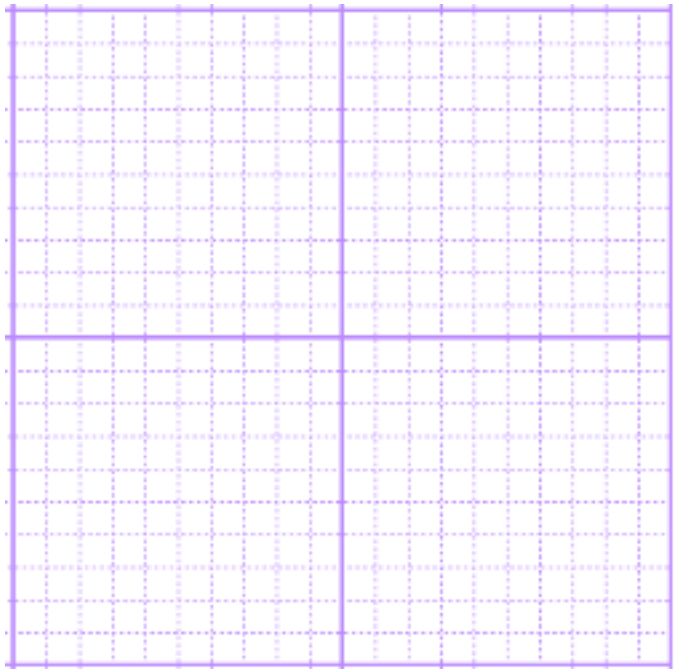


Graph The System of Inequalities

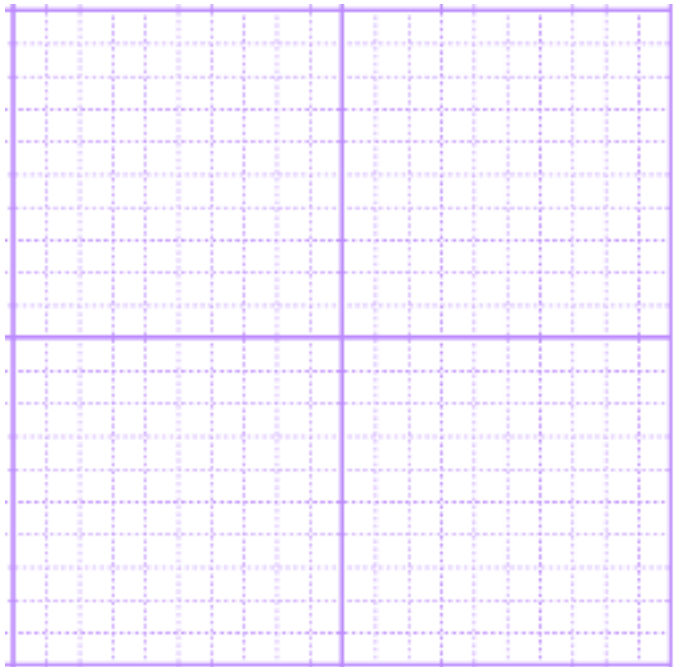
28. $y \geq \frac{-1}{3}x + 4$
 $x < -6$



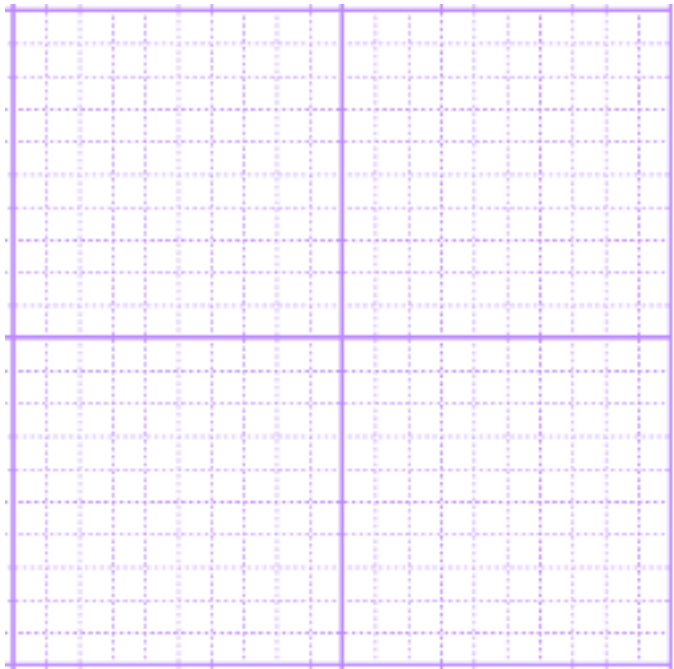
29. $y \geq \frac{1}{2}x - 5$
 $3x + 4y < 12$



30. $2x + 3y \geq 8$
 $y < 4$



31. $y \leq \frac{2}{1}x - 6$
 $2x + 3y < 9$



32.

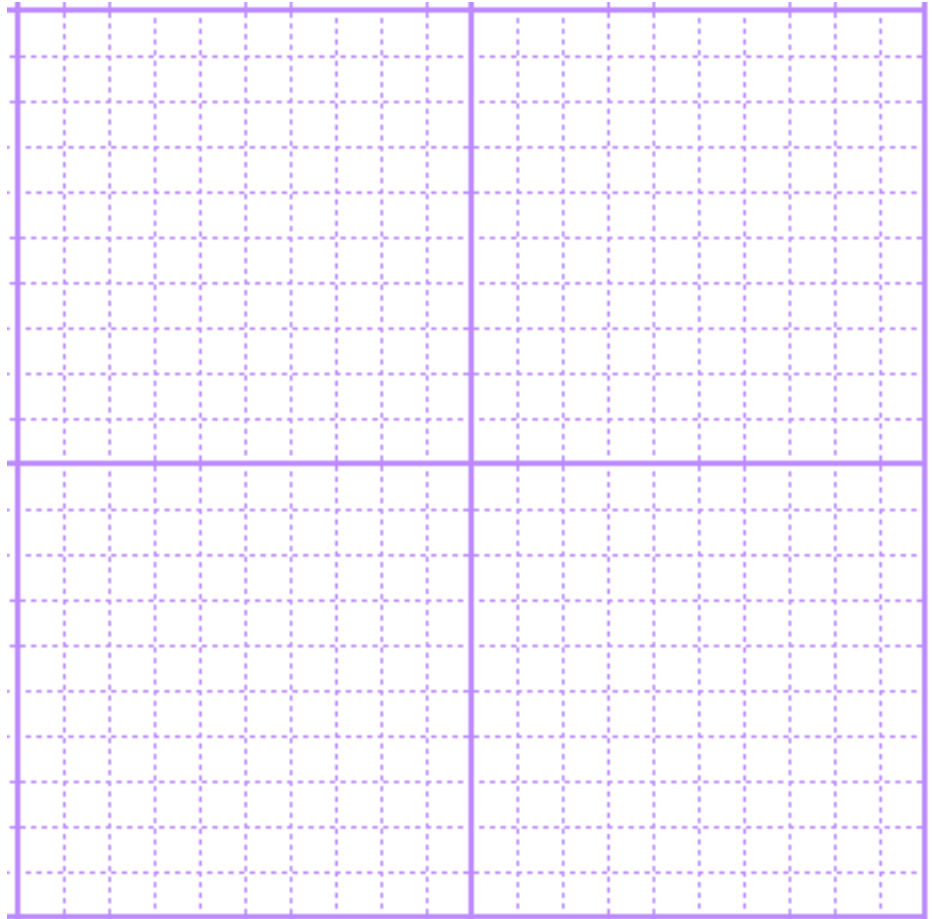
$$3x - 2y \geq -21$$

$$x + 3y < 15$$

$$y < \frac{1}{2}x + 3$$

$$x \geq -6$$

$$y \geq -5$$



Write the following equations.

33. Parallel to $y = \frac{3}{4}x - 7$ through $(5, 7)$ in standard form.

33. _____

34. Perpendicular to $y = \frac{2}{3}x - 5$ through $(2, 3)$ in standard form.

34. _____

35. Parallel to $y = \frac{-1}{3}x - \frac{4}{7}$ through $(-2, 5)$ in slope intercept form.

35. _____

36. Perpendicular to $y = \frac{-4}{3}x + 8$ through $(8, 1)$ in slope intercept form..

36. _____

37. Parallel to $5x - 3y = 17$ through $(1, -2)$ in standard form.

37. _____

38. Perpendicular to $x + 5y = -3$ through $(2, 3)$ in standard form.

38. _____

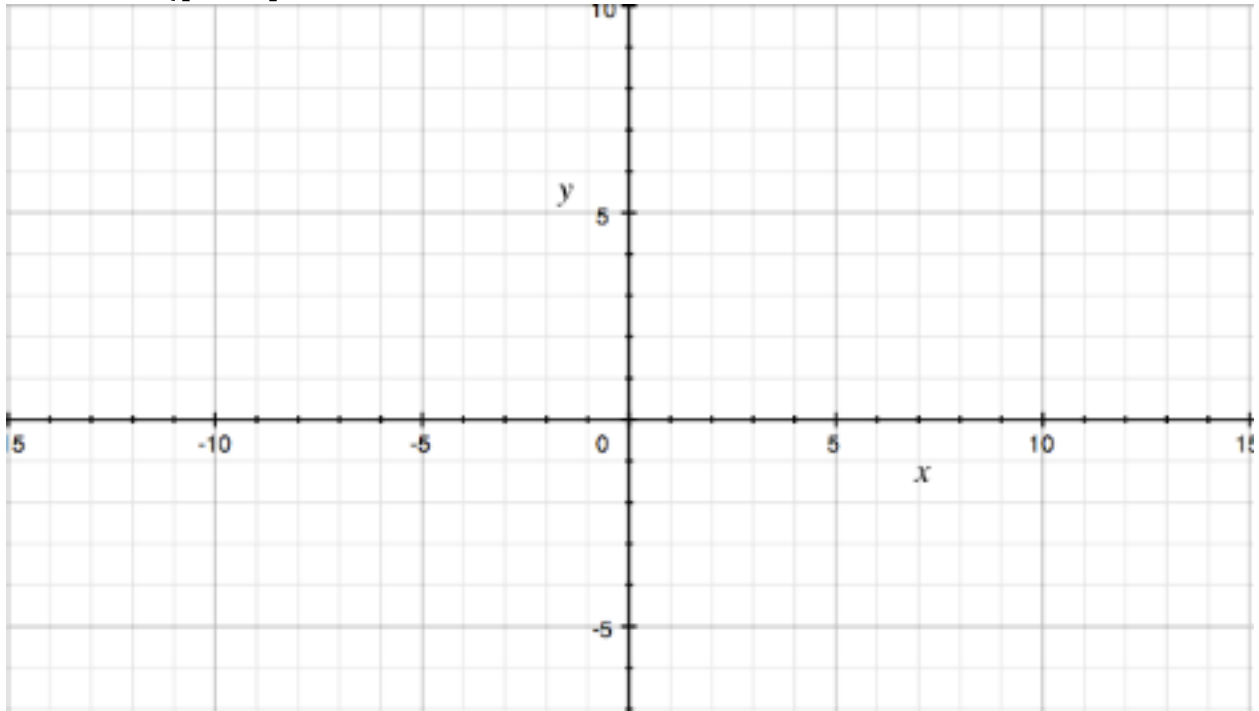
39. Parallel to $3x - 5y = 145$ through $(-6, 5)$ in slope intercept form.

39. _____

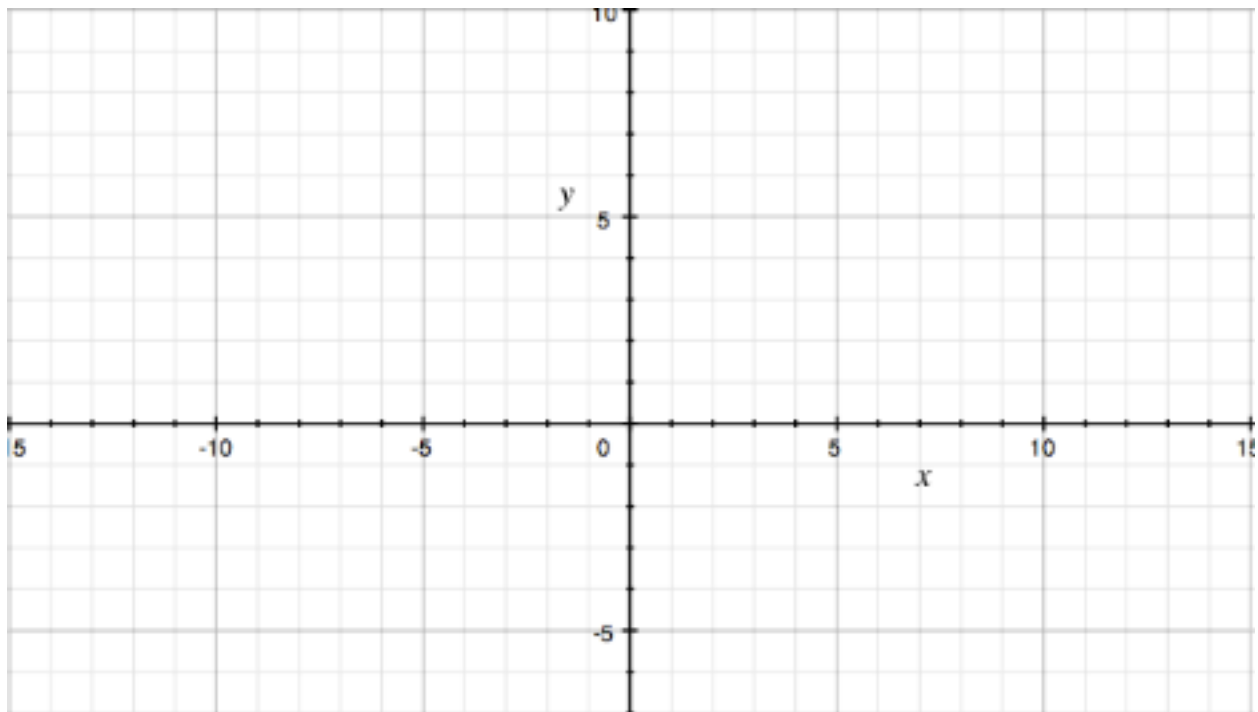
40. Perpendicular to $5x + 2y = 67$ through $(15, -2)$ in slope intercept form..

40. _____

$$41. h(x) = \begin{cases} -x - 10 & \text{for } (-\infty < x < -10) \\ x & \text{for } [-10, -1) \\ [x + 3] & \text{for } [-1, 3] \\ 6 & \text{for } (3, 6) \\ [-x + 1] & \text{for } [6, \infty) \end{cases}$$



$$42. f(x) = \begin{cases} \frac{1}{2}x + 5, & \text{for } -\infty < x < -2 \\ 5, & \text{for } x = -2 \\ -\frac{3}{2}x + 2, & \text{for } -2 < x \leq 2 \\ |x - 3| + 2, & \text{for } 2 < x < 5 \\ -x + 9, & \text{for } 5 \leq x < 8 \\ \lfloor [x - 9] \rfloor + 2, & \text{for } 8 \leq x < \infty \end{cases}$$



$$f(x) = 2x^2 - 5x + 3 \quad g(x) = 4x - 1 \quad p(x) = 5x + 15 \quad h(x) = x^2 + 3x + 2$$

43. $f(p(3))$

44. $p(f(h(0)))$

45. $h(m - 3)$

46. Solve $4[g(3y + 5)] - p(y) = \frac{3}{5}[p(2y)]$

47. Solve to four decimal places $f(g(x)) = h(g(x + 1))$

48. Solve to four decimal places $h\left(p\left(\frac{2}{5}z - 2\right)\right) = 3[f(z)] + 5[g(z)] - 6$