1.0 Geometry Pre-requisite Work Name: Key

What is the slope and y-intercept of the following equations?

1. $y = -3x + 7$ — $m: -3 \quad b: 7$
2. $4x + y = 10$ — $m: -4 \quad b: 10$
3. $-5x - 2y + 19 = 0$ — $m: -\frac{5}{2} \quad b: \frac{19}{2}$

Are the following lines parallel, perpendicular, coincidental, or neither?

4. $y = 2x + 6$, $3x + 6y = -12$ — Perpendicular
5. $y = 3x - 1$, $3x - y = 0$ — Parallel
6. $6x - 2y = 18$, $-2x + 5y - 12 = 0$ — Neither

Find the slope between the following points.

7. (5, 4) and (-2, -7) — $m: \frac{11}{7}$
8. (-7, 4) and (-7, -11) — $\frac{-15}{0}$ = undefined
9. (-2, 6) and (3, 8) — $m: \frac{2}{5}$

Write the equation in slope intercept form that passes through the following points.

10. (3, -2) and (-1, 10) — $y = -3x + 7$

Solve for x.

11. $4(x - 7) = 8x + 8$ — $x = -9$

Simplify the following radical

12. $\sqrt{121}$ — 11
13. $\sqrt{48}$ — $4\sqrt{3}$
14. $6\sqrt{24}$ — $12\sqrt{6}$

Factor completely.

15. $x^2 - 9x + 20$ — $(x-5)(x-4)$
16. $3x^2 - 75$ — $3(x+5)(x-5)$
17. $6x^2 + 13x + 5$ — $(3x+5)(2x+1)$

Graph the following equations on the graph provided on the back of the paper.

18. $y = -\frac{1}{3}x + 5$
19. $y = x$
20. $x = -4$