Graphing Linear Functions Using Intercepts

For each equation below:

a. Calculate the **y-intercept**. Set $x = 0$
b. Place the y-intercept on the y-axis
c. Calculate the x-intercept. Set $y = 0$
d. Place the x-intercept on the x-axis
e. Sketch in the function on the cartesian plane.

Part A — Mild

1. $3x + y = 9$
2. $4y - 12 = 2x$
3. $6 - 2y = 2x$
4. $5y + 15 = -5x$
5. $9x - 3y = 18$
6. $7y = 21 - 14x$

Part B — Medium

7. $2y = 2(x + 3)$
8. $2(y - 3) = x + 4$
9. $4(x - 2) + y = 12$
10. $4(y - 2) = 3x + 4$
11. $3(y + 2) = 2x - 6$
12. $2x - 3(y - 2) = 9$

Part C — Spicy

13. $6 - 2(3y - 4) = 5x$
14. $4(y - 2) = 3(x + 6)$
15. $2(x - 5) - 3(y + 1) = 7$
16. $5(x - 2) - 2(y + 3) = 3x + 4$
17. $3(2x - y + 1) = 2(x + y - 6)$

Part D — Extra Spicy

18. $\frac{x+2}{2} + y = 7$
19. $\frac{x+2}{2} + \frac{y-3}{3} = 5$
20. $\frac{2}{3}(x + 3) - \frac{1}{2}(y - 4) = 7$