Line Intersections

Find the intersection of the following lines.

1. $y = 3x - 2$ and $y = -x + 4$. $\boxed{(x, y) = (\frac{3}{2}, \frac{5}{2})}$

2. $y = -5x + 1$ and $y = x - 3$. $\boxed{(x, y) = (\frac{2}{3}, -\frac{7}{3})}$

3. $y = \frac{1}{2}x$ and $y = x + 5$. $\boxed{(x, y) = (-10, -5)}$

4. $y = \frac{3}{2}x + \frac{1}{3}$ and $y = x - 2$. $\boxed{(x, y) = (-\frac{14}{3}, -\frac{20}{3})}$

5. $y = -\frac{1}{2}x$ and $y = -\frac{1}{3}x + \frac{1}{4}$. $\boxed{(x, y) = (-\frac{3}{2}, \frac{3}{4})}$

6. $y = ax + b$ and $y = x - c$. $\boxed{(x, y) = (\frac{b+c}{1-a}, \frac{b+ac}{1-a})}$

7. $y = 0.3x + 0.2$ and $y = x - 1.4$. $\boxed{(x, y) = (\frac{16}{7}, \frac{31}{35})}$

8. $y = x - 2$ and the line that passes through $(1, 1)$ and $(-1, 2)$. $\boxed{(x, y) = (\frac{7}{3}, \frac{1}{3})}$

9. $y = \frac{1}{3}x + 1$ and the line that passes through $(\frac{1}{2}, 0)$ and $(1, -\frac{1}{4})$. $\boxed{(x, y) = (-\frac{9}{10}, \frac{7}{10})}$

10. $y = -\frac{2}{3}x - \frac{1}{2}$ and the line that passes through $(-\frac{1}{2}, \frac{1}{2})$ and $(-\frac{1}{3}, \frac{2}{3})$. $\boxed{(x, y) = (-\frac{9}{10}, \frac{1}{10})}$

11. The line that passes through $(1, 5)$ and $(3, 7)$, and the line that passes through $(2, -5)$ and $(-3, 5)$. $\boxed{(x, y) = (-\frac{5}{3}, \frac{7}{3})}$

12. The line that passes through $(4, 1)$ and $(6, 2)$, and the line that passes through $(-1, -2)$ and $(3, 10)$. $\boxed{(x, y) = (-\frac{4}{5}, -\frac{7}{5})}$

13. The line that passes through $(\frac{1}{2}, \frac{7}{2})$ and $(\frac{2}{3}, \frac{11}{3})$, and the line that passes through $(-1, 1)$ and $(\frac{3}{4}, -\frac{5}{2})$. $\boxed{(x, y) = (-\frac{4}{3}, \frac{5}{3})}$

14. The line that passes through $(1, -\frac{2}{3})$ and $(\frac{1}{4}, -\frac{11}{12})$, and the line that passes through $(4, 5)$ and $(\frac{1}{2}, \frac{19}{8})$. $\boxed{(x, y) = (-\frac{36}{5}, -\frac{17}{5})}$

15. The line that passes through $(1, \frac{17}{20})$ and $(-1, -\frac{7}{20})$, and the line that passes through $(\frac{2}{3}, \frac{7}{30})$ and $(-1, \frac{9}{10})$. $\boxed{(x, y) = (\frac{1}{4}, \frac{2}{5})}$

16. The line that passes through $(\frac{1}{3}, -1)$ and $(-\frac{1}{3}, \frac{1}{2})$, and the line that passes through $(\frac{2}{3}, -\frac{1}{2})$ and $(-1, \frac{1}{4})$. $\boxed{(x, y) = (-\frac{1}{36}, -\frac{3}{16})}$