Systems of Linear Equations in Two Variables

1. $8x+2y=7$ ✓
   $\frac{2y}{2}=\frac{-8x}{2}+\frac{7}{2}$ ✓
   $y=-4x+\frac{7}{2}$ ✓
   $\boxed{m_1=-4}$ ✓
   $\boxed{b_1=\frac{7}{2}}$ ✓
   $y=-4x+1$ ✓
   $\boxed{m_2=-4}$ ✓
   $\boxed{b_2=1}$ ✓
   $m_1=m_2$ ✓
   $b_1\neq b_2$ ✓
   $\therefore$ $\boxed{\text{Inconsistent, Independent}}$ ✓

2. $x-2y=9$ ✓
   $\frac{-2y}{-2}=\frac{-x}{-2}+\frac{9}{-2}$ ✓
   $y=\frac{1}{2}x-\frac{9}{2}$ ✓
   $\boxed{m_1=\frac{1}{2}}$ ✓
   $\boxed{b_1=-\frac{9}{2}}$ ✓
   $x+3y=14$ ✓
   $\frac{3y}{3}=-\frac{x}{3}+\frac{14}{3}$ ✓
   $y=-\frac{1}{3}x+\frac{14}{3}$ ✓
   $\boxed{m_2=-\frac{1}{3}}$ ✓
   $\boxed{b_2=\frac{14}{3}}$ ✓
   $m_1\neq m_2$ ✓
   $b_1\neq b_2$ ✓
   $\therefore$ $\boxed{\text{Consistent, Independent}}$ ✓

3. $x+3y=8$ ✓
   $\frac{3y}{3}=-\frac{x}{3}+\frac{8}{3}$ ✓
   $y=-\frac{1}{3}x+\frac{8}{3}$ ✓
   $\boxed{m_1=-\frac{1}{3}}$ ✓
   $\boxed{b_1=\frac{8}{3}}$ ✓
   $x-3y=8$ ✓
   $\frac{-3y}{-3}=\frac{-x}{-3}+\frac{8}{-3}$ ✓
   $y=\frac{1}{3}x-\frac{8}{3}$ ✓
   $\boxed{m_2=\frac{1}{3}}$ ✓
   $\boxed{b_2=-\frac{8}{3}}$ ✓
   $m_1\neq m_2$ ✓
   $b_1\neq b_2$ ✓
   $\therefore$ $\boxed{\text{Consistent, Independent}}$ ✓

4. $\frac{2y}{2}=\frac{6x}{2}-\frac{5}{2}$ ✓
   $y=3x-\frac{5}{2}$ ✓
   $\boxed{m_1=3}$ ✓
   $\boxed{b_1=-\frac{5}{2}}$ ✓
   $\frac{3y}{3}=\frac{9x}{3}+\frac{1}{3}$ ✓
   $y=3x+\frac{1}{3}$ ✓
   $\boxed{m_2=3}$ ✓
   $\boxed{b_2=\frac{1}{3}}$ ✓
   $m_1=m_2$ ✓
   $b_1\neq b_2$ ✓
   $\therefore$ $\boxed{\text{Inconsistent, Independent}}$ ✓

5. $3x+5y=15$ ✓
   $\frac{5y}{5}=\frac{-3x}{5}+\frac{15}{5}$ ✓
   $y=-\frac{3}{5}x+3$ ✓
   $\boxed{m_1=-\frac{3}{5}}$ ✓
   $\boxed{b_1=3}$ ✓
   $4x-7y=10$ ✓
   $\frac{-7y}{-7}=\frac{-4x}{-7}+\frac{10}{-7}$ ✓
   $y=\frac{4}{7}x-\frac{10}{7}$ ✓
   $\boxed{m_2=\frac{4}{7}}$ ✓
   $\boxed{b_2=-\frac{10}{7}}$ ✓
   $m_1\neq m_2$ ✓
   $b_1\neq b_2$ ✓
   $\therefore$ $\boxed{\text{Consistent, Independent}}$ ✓

Systems of Linear Equations in Two Variables

1. $8x+2y=7$ ✓
   $\frac{2y}{2}=\frac{-8x}{2}+\frac{7}{2}$ ✓
   $y=-4x+\frac{7}{2}$ ✓
   $\boxed{m_1=-4}$ ✓
   $\boxed{b_1=\frac{7}{2}}$ ✓
   $y=-4x+1$ ✓
   $\boxed{m_2=-4}$ ✓
   $\boxed{b_2=1}$ ✓
   $m_1=m_2$ ✓
   $b_1\neq b_2$ ✓
   $\therefore$ $\boxed{\text{Inconsistent, Independent}}$ ✓

2. $x-2y=9$ ✓
   $\frac{-2y}{-2}=\frac{-x}{-2}+\frac{9}{-2}$ ✓
   $y=\frac{1}{2}x-\frac{9}{2}$ ✓
   $\boxed{m_1=\frac{1}{2}}$ ✓
   $\boxed{b_1=-\frac{9}{2}}$ ✓
   $x+3y=14$ ✓
   $\frac{3y}{3}=-\frac{x}{3}+\frac{14}{3}$ ✓
   $y=-\frac{1}{3}x+\frac{14}{3}$ ✓
   $\boxed{m_2=-\frac{1}{3}}$ ✓
   $\boxed{b_2=\frac{14}{3}}$ ✓
   $m_1\neq m_2$ ✓
   $b_1\neq b_2$ ✓
   $\therefore$ $\boxed{\text{Consistent, Independent}}$ ✓

3. $x+3y=8$ ✓
   $\frac{3y}{3}=-\frac{x}{3}+\frac{8}{3}$ ✓
   $y=-\frac{1}{3}x+\frac{8}{3}$ ✓
   $\boxed{m_1=-\frac{1}{3}}$ ✓
   $\boxed{b_1=\frac{8}{3}}$ ✓
   $x-3y=8$ ✓
   $\frac{-3y}{-3}=\frac{-x}{-3}+\frac{8}{-3}$ ✓
   $y=\frac{1}{3}x-\frac{8}{3}$ ✓
   $\boxed{m_2=\frac{1}{3}}$ ✓
   $\boxed{b_2=-\frac{8}{3}}$ ✓
   $m_1\neq m_2$ ✓
   $b_1\neq b_2$ ✓
   $\therefore$ $\boxed{\text{Consistent, Independent}}$ ✓

4. $\frac{2y}{2}=\frac{6x}{2}-\frac{5}{2}$ ✓
   $y=3x-\frac{5}{2}$ ✓
   $\boxed{m_1=3}$ ✓
   $\boxed{b_1=-\frac{5}{2}}$ ✓
   $\frac{3y}{3}=\frac{9x}{3}+\frac{1}{3}$ ✓
   $y=3x+\frac{1}{3}$ ✓
   $\boxed{m_2=3}$ ✓
   $\boxed{b_2=\frac{1}{3}}$ ✓
   $m_1=m_2$ ✓
   $b_1\neq b_2$ ✓
   $\therefore$ $\boxed{\text{Inconsistent, Independent}}$ ✓

5. $3x+5y=15$ ✓
   $\frac{5y}{5}=\frac{-3x}{5}+\frac{15}{5}$ ✓
   $y=-\frac{3}{5}x+3$ ✓
   $\boxed{m_1=-\frac{3}{5}}$ ✓
   $\boxed{b_1=3}$ ✓
   $4x-7y=10$ ✓
   $\frac{-7y}{-7}=\frac{-4x}{-7}+\frac{10}{-7}$ ✓
   $y=\frac{4}{7}x-\frac{10}{7}$ ✓
   $\boxed{m_2=\frac{4}{7}}$ ✓
   $\boxed{b_2=-\frac{10}{7}}$ ✓
   $m_1\neq m_2$ ✓
   $b_1\neq b_2$ ✓
   $\therefore$ $\boxed{\text{Consistent, Independent}}$ ✓