

In-Class Problems 1 for Monday, January 22

These problems are from **Pre-Class Problems 1**.

1. Solve the equation  $\frac{2}{3}x - 7 = \frac{1}{4}x + \frac{5}{2}$ .

2. Solve the following equations.

a.  $\frac{3}{4y} - \frac{5}{8} = \frac{1}{2y} - \frac{7}{6}$

b.  $\frac{4}{t-4} - \frac{5}{6} = \frac{t}{t-4}$

c.  $\frac{3}{x+3} = \frac{11}{x^2-9}$

d.  $\frac{5}{2w-3} - \frac{6}{w+6} = \frac{4w+92}{2w^2+9w-18}$

e.  $\frac{3}{2x-5} = \frac{2}{3-7x}$

3. Solve for the indicated variable.

a.  $A = \frac{1}{2}h(b_1 + b_2)$  for  $b_1$

b.  $y = mx + b$  for  $x$

4. Write each expression in terms of  $i$  and simplify.

a.  $\sqrt{-5} \sqrt{-15}$

b.  $\frac{\sqrt{-96}}{\sqrt{6}}$

5. Determine the real part and the imaginary part of  $\frac{7}{3} - 9i$ .