Simplify.
$$\frac{6}{7x+28} - \frac{5}{x^3 - 16x}$$

$$\frac{\cancel{(x-y)} \cdot \cancel{x}}{\cancel{(x-y)} \times \cancel{(x-y)}} \cdot \frac{\cancel{(x-y)} \cdot \cancel{(x-y)}}{\cancel{(x-y)}} - \frac{\cancel{(x-y)} \cdot \cancel{(x-y)}}{\cancel{(x-y)}} \cdot \frac{\cancel{(x-y)} \cdot \cancel{(x-y)}}{\cancel{(x-y)}}$$

$$\frac{\cancel{(x-y)} \cdot \cancel{(x-y)}}{\cancel{(x-y)}} \cdot \frac{\cancel{(x-y)} \cdot \cancel{(x-y)}}{\cancel{(x-y)}} \cdot \frac{\cancel{(x-y)} \cdot \cancel{(x-y)}}{\cancel{(x-y)}}$$

Complex Fractions: (also known as Compound Fractions)
Fractions whose numerators and/or
denominators also have fractions.

Simplify:

$$\frac{15}{24}$$
multiply by the reciprocal
$$\frac{15}{5} - \frac{15}{5}$$

$$\frac{15}{5} - \frac{15}{5}$$

$$\frac{15}{7} - \frac{15}{7}$$

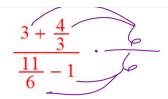
$$\frac{15}{7} - \frac{15}{7}$$

Simplify.
$$\frac{3}{x^2 - 6x + 9} - \frac{5}{x^2 - 7x + 12}$$
 $\frac{(x-4)}{(x-4)} \cdot \frac{3}{(x-3)(x-3)} - \frac{5}{(x-3)(x-3)} \cdot \frac{(x-3)}{(x-3)(x-3)}$
 $\frac{-2x + 3}{(x-3)(x-3)(x-3)}$

Simplify:

$$\frac{3 + \frac{4}{3}}{\frac{11}{6} - 1}$$

There are many methods to do this, I'll focus on two methods.



Find LCM of all the denominators in the complex fraction. Then multiply the top and bottom of the complex fraction by this LCM.

$$\frac{11-6}{5} = \frac{26}{5}$$

Simplify:
$$\frac{2}{x} + \frac{5}{y^3}$$

$$\frac{3}{x^2} - \frac{6}{y^2}$$

$$\frac{2 \times y^3}{3 \times y^3 - 6 \times y^2}$$

$$\frac{6}{6} \frac{3 + \frac{4}{3}}{16} \frac{2}{11} \frac{11}{6} \frac{1}{1} \frac{1}{6} \frac{1}{6}$$

Get ALL the "parts" of the complex fraction to have the LCD.

Then you can cancel all of the denominators.

$$\frac{18+8}{8+2} = \frac{18+8}{11-4} = \frac{26}{5}$$