

$$\textcircled{1} \quad x-7$$

$$\textcircled{2} \quad m-7 + \frac{-4}{m+5}$$

$$\textcircled{3} \quad 2x^2 + 5x + 1 + \frac{2}{x-1}$$

$$\textcircled{4} \quad 2x^3 + 2x - 2 + \frac{6}{x-\frac{1}{2}}$$

$$\textcircled{5} \quad a^3 - 4a^2 + 16a - 64 + \frac{272}{a+4}$$

$$\textcircled{6} \quad x^3 + 2x^2 + 4x + 8$$

$$\textcircled{7} \quad 9x^2 + 27x + 81 + \frac{219}{x-3}$$

Remainder, so $(x-3)$
is not a factor

$$\textcircled{8} \quad 8x^2 - 12x + 4$$

Remainder of 0, so
 $x + \frac{3}{4}$ is a factor.