

$$4 - 2(7 - 1) + 5$$

$$-2(6) + 5$$

$$-12 + 5$$

$$-8 + 5$$

$$\boxed{-3}$$

$$2.) 3[1 - 4(7 - 10)]$$

$$3[1 - 4(-3)]$$

$$3[1 + 12]$$

$$3[13]$$

$$\boxed{39}$$

$$3.) -4[5(-2 + 8 - 4) + 5(11 - 7)]$$

$$-4[5(2) + 5(4)]$$

$$-4[10 + 20]$$

$$-4[30]$$

$$\boxed{-120}$$

$$4.) \frac{5}{7} - \frac{6}{13}$$

$$\cdot \frac{13}{13} - \frac{6}{13} \cdot \frac{7}{7}$$

$$\frac{5}{91} - \frac{42}{91}$$

$$\boxed{\frac{23}{91}}$$

$$5.) (2x - 9)(5x + 1)$$

$$10x^2 + 2x - 45x - 9$$

$$\boxed{10x^2 - 43x - 9}$$

$$6.) (3x - 4)^2$$

$$(3x - 4)(3x - 4)$$

$$9x^2 - 12x - 12x + 16$$

$$\boxed{9x^2 - 24x + 16}$$

$$7.) (3x^2 - x + 4)^2$$

$$(x^2 - x + 4)(3x^2 - x + 4)$$

$$x^4 - 3x^3 + 12x^2 - 3x^3 + x^2 - 4x + 12x^2 - 4x + 16$$

$$\boxed{x^4 - 6x^3 + 25x^2 - 8x + 16}$$

$$8.) (2x - 4)^3$$

$$8.) (2x - 4)(2x - 4)(2x - 4)$$

$$(2x - 4)(4x^2 - 16x + 16)$$

$$8x^3 - 32x^2 + 32x - 16x^2 + 64x - 64$$

$$\boxed{8x^3 - 48x^2 + 96x - 64}$$

$$9.) \frac{x^2 - 9}{x - 3}$$

$$\frac{(x - 3)(x + 3)}{(x - 3)}$$

$$\boxed{x + 3}$$

$$10.) \frac{x^2 - x - 6}{x - 3}$$

$$\frac{\cancel{(x-3)}(x+2)}{\cancel{(x-3)}}$$

$$\boxed{x+2}$$

$$11.) \frac{x^2 - 4x - 21}{x + 3}$$

$$\frac{(x-7)\cancel{(x+3)}}{\cancel{(x+3)}}$$

$$\boxed{x-7}$$

$$12.) \frac{12}{x^2+2x} + \frac{4}{x} + \frac{2}{x+2}$$

$$x(x+2)$$

$$\frac{12}{x(x+2)} + \frac{4(x+2)}{x(x+2)} + \frac{2x}{x+2} \cdot \frac{x}{x}$$

$$\frac{12}{x(x+2)} + \frac{4x+8}{x(x+2)} + \frac{2x}{x(x+2)}$$

$$\frac{6x+20}{x(x+2)} = \frac{2(3x+10)}{x(x+2)}$$

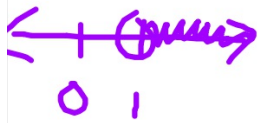
$$13.) \cancel{3}x - 5 < 4x - 6$$

$$\quad -3x$$

$$\begin{array}{rcl} -5 < x - 6 \\ +6 & & +6 \end{array}$$

$$1 < x$$

$$x > 1$$



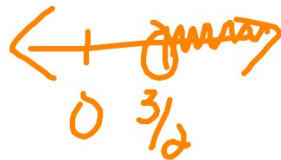
$$14.) 5x - 7 > 3x - 4$$

$$\quad -3x$$

$$\begin{array}{rcl} 2x - 7 > -4 \\ +7 & & +7 \end{array}$$

$$\frac{2x}{2} > \frac{3}{2}$$

$$x > \frac{3}{2}$$



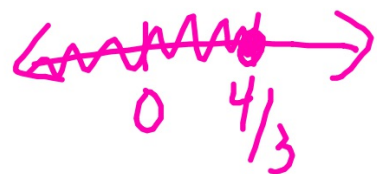
$$15.) -2x + 5 \geq \cancel{4}x - 3$$

$$\quad -4x$$

$$\begin{array}{rcl} -6x + 5 & \geq & -3 \\ -5 & & -5 \end{array}$$

$$\frac{-6x}{-6} \geq \frac{-8}{-6}$$

$$x \leq \frac{4}{3}$$



$$) -4 < 3x + 2 < 5$$

$$\begin{array}{ccc} -2 & -2 & -2 \\ -6 & < 3x < & 3 \\ \hline 3 & 3 & 3 \end{array}$$

$$-2 < x < 1$$

$$\begin{array}{c} \text{---} \oplus \text{---} \oplus \text{---} \rightarrow \\ -2 \quad 1 \end{array}$$

$$17.) 3 + 2x < 4x + 1 < 18$$

$$\begin{array}{l|l} 3 + 2x < 4x + 1 & 4x + 1 < 18 \\ \hline 3 < 2x + 1 & 4x < 17 \\ -1 & \quad -1 \\ \hline \frac{2}{2} < \frac{2x}{2} & x < \frac{17}{4} \\ 1 < x & \end{array}$$

$$1 < x < \frac{17}{4}$$

$$\begin{array}{c} \leftarrow \text{---} \oplus \text{---} \oplus \text{---} \rightarrow \\ \quad 1 \quad \quad \frac{17}{4} \end{array}$$

$$18.) x^2 - 5x - 6 > 0$$

$$(x - 6)(x + 1) > 0$$

$$\begin{array}{c} + \quad - \quad + \\ \text{---} \oplus \text{---} \oplus \text{---} \\ \quad -1 \quad 6 \end{array}$$

$$x < -1 \text{ or } x > 6$$

$$\begin{array}{c} \text{---} \oplus \text{---} \oplus \text{---} \\ \quad -1 \quad 6 \end{array}$$

$$19.) |x + 3| > 4$$

$$\begin{array}{l|l} x+3 > 4 & x+3 < -4 \\ -3 & -3 \end{array}$$

$$x > 1 \text{ or } x < -7$$



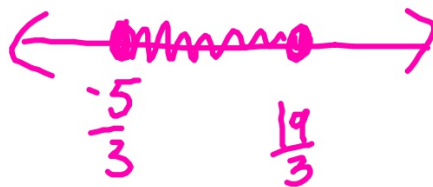
$$20.) |3x - 7| \leq 12$$

$$\begin{array}{l|l} 3x-7 \leq 12 & 3x-7 \geq -12 \\ +7 & +7 \end{array}$$

$$\begin{array}{l|l} 3x \leq 19 & 3x \geq -5 \\ \frac{3}{3} & \frac{3}{3} \end{array}$$

$$\begin{array}{l|l} x \leq \frac{19}{3} & x \geq -\frac{5}{3} \end{array}$$

$$-\frac{5}{3} \leq x \leq \frac{19}{3}$$



$$21.) \left| \frac{x}{4} + 5 \right| < 7$$

$$\begin{array}{l|l} \frac{x}{4} + 5 < 7 & \frac{x}{4} + 5 < -7 \\ -5 & -5 \end{array}$$

$$\frac{x}{4} < 2 \quad \frac{x}{4} < -12$$

$$x < 8 \quad x < -48$$

