

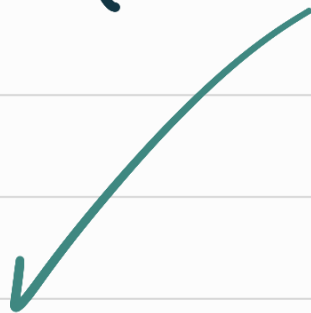
Correction

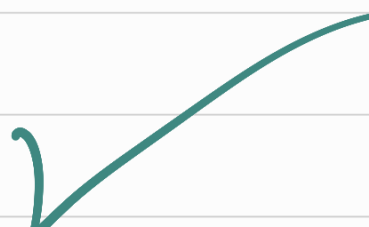
$$A = (3x+1)(4x+2) - 5(2x-3)$$

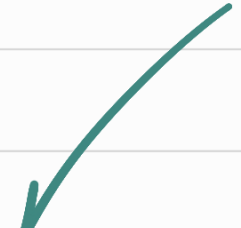
- $(3x+1)(4x+2) = \dots = 12x^2 + 10x + 2$

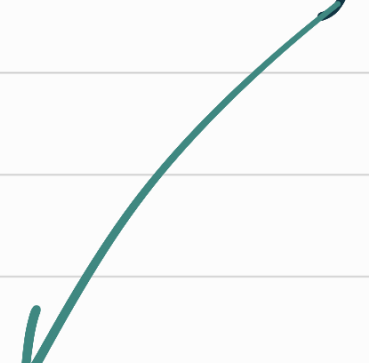
- $-5(2x-3) = \dots = -10x + 15$

$$A = (12x^2 + 10x + 2) + (-10x + 15)$$
$$= 12x^2 + 17$$



$$\begin{aligned} B &= (4x-1)(5x-3) + 7(3x-1) \\ &= 20x^2 + 4x - 4 \end{aligned}$$


$$\begin{aligned} C &= (5x-4)(3x+7) \\ &\quad + (4x-2)(5x+9) \\ &= 35x^2 + 49x - 46 \end{aligned}$$


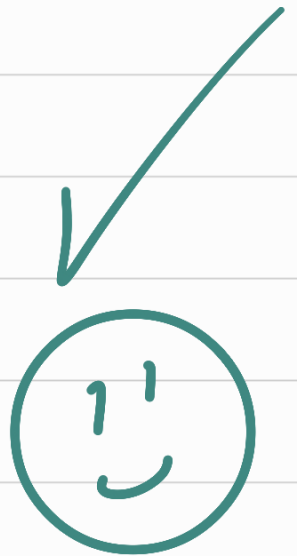
$$\begin{aligned} D &= (x-2)(x+2) - (2x+1)(3x-2) \\ &= -5x^2 + x - 2 \end{aligned}$$


$$E = 4(3x+1)^2 - (2x+3)(2x-3)$$

$$\begin{aligned} \bullet 4(3x+1)^2 &= 4(9x^2+6x+1) \\ &= 36x^2+24x+4 \end{aligned}$$

$$\begin{aligned} \bullet (2x+3)(2x-3) &= (2x)^2-3^2 \\ &= 4x^2-9 \end{aligned}$$

$$\begin{aligned} E &= (36x^2+24x+4) - (4x^2-9) \\ &= 36x^2+24x+4-4x^2+9 \\ &= 32x^2+24x+13. \end{aligned}$$



Equations

- $x - 5 = 3$

$$x = 3 + 5$$

$$x = 8$$

- $x + 8 = 12$

$$x = 12 - 8$$

$$x = 4$$

- $4x = 20$

$$x = \frac{20}{4} = 5.$$

$$\bullet \quad -2x = 14$$

$$x = \frac{14}{-2} = -7$$

$$\bullet \quad \frac{x}{7} = 8$$

$$x = 8 \times 7 = 56$$

$$\bullet \quad 5x - 3 = 12$$

$$5x = 12 + 3$$

$$5x = 15$$

$$x = \frac{15}{5} = 3.$$

$$\bullet \quad 4 - 3x = 8$$

$$-3x = 8 - 4$$

$$-3x = 4$$

$$x = \frac{4}{-3} = -\frac{4}{3}.$$

$$\bullet \quad -3x + 1 = 12.$$

$$-3x = 12 - 1$$

$$-3x = 11$$

$$x = \frac{11}{-3} = -\frac{11}{3}.$$

• $-3 + 5x = 12 + 3x$

$$5x - 3x = 12 + 3$$

$$2x = 15$$

$$x = \frac{15}{2} = 7,5.$$

• $-3x + 4 = 8 + 5x$

$$-3x - 5x = 8 - 4$$

$$-8x = 4$$

$$x = \frac{4}{-8} = -\frac{1}{2}.$$

- $7x + 3 = -x + 6$

$$7x + x = 6 - 3$$

$$8x = 3$$

$$x = \frac{3}{8}$$

- $7 - x = 2x - 3.$

$$7 + 3 = 2x + x$$

$$10 = 3x$$

$$x = \frac{10}{3}.$$

Fractions

$$A = \frac{3x-5}{4} - \frac{x-5}{3}$$

$$= \frac{3(3x-5) - 4(x-5)}{4 \times 3}$$

$$= \frac{3 \times 3x + 3 \times (-5) - 4 \times x - 4 \times (-5)}{12}$$

$$= \frac{9x - 15 - 4x + 20}{12}$$

$$= \frac{5x + 5}{12}$$

$$B = \frac{x^2 + 5x}{8} - \frac{3x - x^2 + 4}{3}$$

$$= \frac{3(x^2 + 5x) - 8(3x - x^2 + 4)}{8 \times 3}$$

$$= \frac{3x^2 + 15x - 24x + 8x^2 - 32}{24}$$

$$= \frac{11x^2 - 9x - 32}{24}$$

$$C = \frac{3x^2 - 2}{5} + \frac{2x^3 + 7}{15}$$

$$- \frac{5x^3 - 3}{20}$$

$$= \frac{3(3x^2 - 2) + 2x^3 + 7}{15}$$

$$- \frac{5x^3 - 3}{20}$$

$$= \frac{9x^2 - 6 + 2x^3 + 7}{15} - \frac{5x^3 - 3}{20}$$

$$= \frac{2x^3 + 9x^2 + 1}{15} - \frac{5x^3 - 3}{20}$$

$$= \frac{20(2x^3 + 9x^2 + 1) - 15(5x^3 - 3)}{300}$$

$$= \frac{40x^3 + 180x^2 + 20 - 75x^3 + 45}{300}$$

$$= \frac{-35x^3 + 180x^2 + 65}{300}$$

$$= \frac{-\cancel{5} \times 7x^3 + \cancel{5} \times 36x^2 + \cancel{5} \times 13}{\cancel{5} \times 60}$$

$$= \frac{-7x^3 + 36x^2 + 13}{60}$$