- **Pembahasan Contoh-contoh Soal**

1) $X = 2,5$ $|2,5| - |4,5| \leq |2,5 - 4,5| \leq |2,5| + |4,5|$

    $Y = 4,5$ -2 $\leq$ 2 $\leq$ 7

    $|2,5| + |4,5| = |2,5 + 4,5|$

        7 $=$ 7

2) $|2x + 3| = 2$, $x = ?$

    $(2x + 3)^2 = 2^2$

    $4x^2 + 12x + 9 - 4 = 0$

    $4x^2 + 12x + 5 = 0$

    $4x^2 + 2x + 10x + 5 = 0$

    $2x(2x+1) + 5(2x+1) = 0$

    $(2x+1)(2x+5) = 0$

    $x = -\frac{1}{2}$ atau $x = -\frac{5}{2}$

3) $|x| + |x-1| = |x+1|$

    $(|x|+|x-1|)^2 = (|x+1|)^2$

    $x^2 + 2(x)(x-1) + (x-1) = (x+1)^2$

    $x^2 + 2(x)(x-1) + (x-1) = (x+1)^2$

    $x^2 + 2x^2 - 2x + x^2 - 2x + 1 = x^2 + 2x + 1$

    $4x^2 + 4x + 1 = x^2 + 2x + 1$

    $3x^2 - 6x = 0$

    $x^2 - 2x = 0$

    $x(x-2) = 0$

    $x = 0$ atau $x = 2$

4) $(3 + 5i)(4 - i) = ...$

    $(3 + 5i)(4 - i) = 12 - 3i + 20i - 5i^2$

                  $= -5i^2 - 17i + 12$

                  $= -5(\sqrt{-1})^2 - 17\sqrt{-1} + 12$

                  $= 5 + 12 - 17\sqrt{-1}$

                  $= 17 - 17\sqrt{-1}$

5) $(2 - i)^2 (4 + 5i) = ...$

    $(2 - i)^2 (4 + 5i) = (2 - 1)(2 - 1)(4 + 5i)$

                  $= 4 - 4i + i^2 (4 + 5i)$

$$= (3 - 4i)(4 + 5i)$$
$$= 12 + 15i - 16i - 20i^2$$
$$= 12 - i - 20i^2$$
$$= 32 - i$$

6) $\frac{3+4i}{2-5i} = ...$

$$\frac{3+4i}{2-5i} \cdot \frac{2+5i}{2+5i} = \frac{6+15i+8i+20i^2}{4-25i^2}$$
$$= \frac{6+23i+20i^2}{4+25}$$
$$= \frac{-14+23i}{29}$$

7) $\frac{7+4i}{3-2i} = ...$

$$\frac{7+4i}{3-2i} \cdot \frac{3+2i}{3+2i} = \frac{21+14i+12i+8i^2}{9-4i^2}$$
$$= \frac{21+26i-8}{9+4}$$
$$= \frac{13+26i}{13}$$

8) Tentukan nilai x

$$|2x + 3| = |4x + 5|$$
$$(2x + 3)^2 = (4x + 5)^2$$
$$4x^2 + 12x + 9 = 16x^2 + 40x + 25$$
$$12x^2 + 28x + 16 = 0$$
$$3x^2 + 7x + 4 = 0$$
$$(3x + 4)(x + 1) = 0$$
$$x = -\tfrac{4}{3} \text{ atau } x = -1$$