

C. SO ELEMENTI di MATEMATICA

SCHEDA di ESERCIZI N° 11

VALORE ASSOLUTO

1) Dite quali sono vere e quali false:

$$\left| \frac{7}{2} \right| = \pm \frac{7}{2}; \quad \left| -\frac{8}{11} \right| = -\frac{8}{11}; \quad \left| -\frac{3}{5} \right| = \frac{3}{5}; \quad \left| \frac{7}{2}a \right| = +\frac{7}{2}a.$$

2) Calcolate:

$$\left| -\frac{7}{2} + \frac{4}{5} \right| = \dots\dots; \quad |(\sin(2\pi/3))^3| = \dots\dots;$$
$$|3^{-3} \tan(5\pi/4)| = \dots\dots; \quad \left| \frac{4}{7} \cos(7\pi/4) - \sqrt{2} \right| = \dots\dots.$$

3) Sviluppate le seguenti espressioni:

$$\left| \frac{6}{7}x - \frac{5}{2} \right| = \begin{cases} \dots\dots & \text{se } \dots\dots \\ \dots\dots & \text{se } \dots\dots \end{cases} \quad |-x| = \begin{cases} \dots\dots & \text{se } \dots\dots \\ \dots\dots & \text{se } \dots\dots \end{cases}$$

4) Risolvete:

$$|x| = \frac{2}{5}; \quad |x| = -\frac{2}{5}; \quad |-x| = 5; \quad \left| \frac{7}{5} - 4x \right| = \frac{5}{10};$$
$$(-5)^3 \left| \frac{3}{2} - \frac{1}{2}x \right| = -25x; \quad |3x - 8| = \frac{1}{2}|4(2x - 1) - 3|.$$

5) Risolvete:

$$|1 - x| \leq \frac{2}{3}; \quad |6x| \geq 3; \quad |x^2 + 5x| \leq 0;$$
$$|(-1)^3(6x^2 - 4)| \geq 10x; \quad 5 - 3| - 3x + 1| \geq 0.$$

6) Risolvete:

a) $|x| > x$...

b) $3|x + 1| < (x + 1)^2$...

c) $|x + 5| = x - 3$...

d) $|3x - 1| < 5/2$...

7) Risolvi

$$a) \quad (3 \cos \pi)^3 \left| \frac{450}{75} x \sin \left(\frac{11}{6} \pi \right) \right| = -9.$$

$$b) \quad \left| (3x + 5)(3x^3 + x^2 - 2x) \left(x^2 - \frac{9}{4} \right) \right| \leq 0.$$

$$c) \quad |2x^2 - 5| < 9x.$$

$$d) \quad \left| -\frac{4x - 8}{16} \right| \geq \frac{5}{4} \sqrt{\frac{1}{4}}.$$

→ ESERCIZI nelle DISPENSE su ELLY

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