



VERIFICA DI MATEMATICA

CLASSE 2[^]D – 23 Gennaio 2007

COGNOME _____ NOME _____

Verifica le seguenti identità:

$$1. \sqrt{\frac{x+y}{x}} = \frac{x + \frac{y}{2}}{\sqrt{x^2 + xy}} + \frac{y}{2\sqrt{x^2 + xy}}$$

$$2. \sqrt{a+b} + 2\sqrt{ab} + \sqrt{a^2+b-2a\sqrt{b}} = \sqrt{a(a+1+2\sqrt{a})} \quad a > \sqrt{b}$$

Risolvi:

$$3. x + \frac{x - 11\sqrt{5}(\sqrt{5}-1)}{\sqrt{5}-1} + \frac{\sqrt{5}+1}{1-\sqrt{5}}(\sqrt{5}-1)x = 11 \quad x = -16 - 4\sqrt{5}$$

$$4. \frac{\sqrt{5}x - \sqrt{7}}{\sqrt{5} + \sqrt{7}} - \frac{\sqrt{7}x + \sqrt{5}}{\sqrt{7} - \sqrt{5}} = 0 \quad x = -1$$

$$5. \frac{x^2 + \sqrt{2} + 1}{x^2 - 2\sqrt{3}x + 3} + \frac{2\sqrt{3}}{\sqrt{2}x - \sqrt{6}} = 1 \quad x = \frac{\sqrt{6}}{3}$$

$$6. \frac{2\sqrt{3}-1}{\sqrt{3}} - \frac{2\sqrt{3}-2}{x} + \frac{5\sqrt{3}+2}{x} = \frac{3}{x} - \frac{1}{x\sqrt{3}} + 2 \quad x = 10 + \sqrt{3}$$

$$7. \frac{x + 2\sqrt{3}}{2\sqrt{3} + 3\sqrt{2}} - \frac{x + 3\sqrt{2}}{3\sqrt{2} - 2\sqrt{3}} \geq 2 \quad x \leq -\frac{7\sqrt{3}}{2}$$

$$8. \frac{x}{\sqrt{7}-1} - \frac{1}{\sqrt{7}+1} < \frac{x}{\sqrt{7}(\sqrt{7}-1)} + \frac{1}{\sqrt{7}(\sqrt{7}+1)} \quad x < 1$$

$$9. \begin{cases} x - 3y\sqrt{2} = 2\sqrt{2} \\ 2x - 2\sqrt{2}y = -2\sqrt{2} \end{cases} \quad \begin{cases} x = -\frac{5}{2}\sqrt{2} \\ y = -\frac{3}{2} \end{cases}$$

$$10. \begin{cases} 3x + \sqrt{3}y = \frac{6}{2\sqrt{3} + 3\sqrt{2}} \\ x - \frac{\sqrt{2}}{2}y = 2\sqrt{2} \end{cases} \quad \begin{cases} x = \sqrt{2} \\ y = -2 \end{cases}$$

Totale punti 17,5. Sufficienza con punti 9,25.

BUON LAVORO!!!