

$$3x^2 + 10x - 57 = 0.$$

$$x = \frac{-10 \pm \sqrt{100 - 4 \cdot 3 \cdot (-57)}}{6} = \frac{-10 \pm \sqrt{100 + 684}}{6}$$

~~$$\frac{-10 \pm \sqrt{784}}{6} = \frac{-10 \pm 28}{6}$$~~

$$= \frac{-10 + 28}{6} \Rightarrow x = 3 \vee x = -\frac{19}{3}$$

↓
kleipt voldoet niet

Vraag 2

$$a) \frac{\sqrt[3]{a^2 b} \cdot \sqrt[6]{a^4 b^2}}{b^{2/3}} =$$

$$a^{2/3} \cdot b^{1/3} \cdot a^{4/6} \cdot b^{2/6} \cdot b^{-2/3} =$$

$$a^{(2/3+4/6)} \cdot b^{(1/3+2/6-2/3)} = a^{4/3}$$

$$b) (2x^2 + 1)(8x^2 - 4) - (4x^2)^2 =$$

~~$$16x^4 + 8x^2 - 8x^2 - 4 = 16x^4 - 4 = -4$$~~

$$c) (x - 2y)^3 = (x - 2y)(x - 2y)^2 =$$

$$(x - 2y)(x^2 - 4xy + 4y^2) =$$

$$x^3 - 4x^2y + 4xy^2 - 2x^2y + 8xy^2 - 8y^3 =$$

$$x^3 - 6x^2y + 12xy^2 - 8y^3$$

Vraag 3

$$a) a^2 + 4ab + 4b^2 = (a + 2b)^2$$

$$b) x^4 - 9 = (x^2 + 3)(x^2 - 3)$$

Vraag 4

$$a) {}^3\log(x^3) = 6.$$

$${}^3\log(x^3) = {}^3\log(3^6)$$

$$x^3 = 3^6.$$

$$x = 3^2 = 9$$

$$b) 2^{-2x} = 4^{x+1} \quad \cancel{2}$$

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

$$2^{-2x} = 2^{2x+2}$$

$$-2x = 2x + 2$$

$$-4x = 2$$

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

Tentamenpapier

Naam	Smit	Datum	28-9-2012
Opleiding	Mechatronica	Vak (code)	MeWIS 1
Id-code	LLLLLLLL	Tentamennr.	Oefen Cijfer
Klas	MeP11	Afdeling	
Docent	Smit	Module	

c) $x^2 + 5|x| - 6 = 0$

voor $x \geq 0$

$$x^2 + 5x - 6 = 0$$

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

$$\cancel{x = -6} \vee x = 1$$

voor $x < 0$

$$x^2 - 5x - 6 = 0$$

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

$$\cancel{x = 6} \vee x = -1$$

Vraag 1

a) $\frac{1}{a} + \frac{1}{a-2} = \frac{2}{a+1}$

$$\frac{a}{a} + \frac{a}{a-2} = \frac{2a}{a+1}$$

$$\frac{a(a-2)}{a} + \frac{a(a-2)}{a-2} = \frac{2a(a-2)}{a+1}$$

$$(a-2)(a+1) + a(a+1) = 2a(a-2)$$

$$\cancel{a^2 - a - 2} + \cancel{a^2 + a} = 2a^2 - 4a$$

$$a = \frac{1}{2}$$

b) $(\sqrt{x+6} - \sqrt{x-2})^2 = (\sqrt{x+1})^2$

$$x+6 + x-2 - 2\sqrt{(x+6)(x-2)} = x+1$$

$$-2\sqrt{(x+6)(x-2)} = -x-3$$

$$4(x+6)(x-2) = x^2 + 6x + 9$$

$$4x^2 + 16x - 48 = x^2 + 6x + 9$$