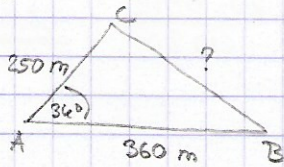


f)  $a = 16,4$ ,  $b = 26$ ,  $c = 27,3$   $\alpha, \beta, \gamma = ?$   
 $a^2 = b^2 + c^2 - 2bc \cdot \cos \alpha$   
 $\cos \alpha = \frac{b^2 + c^2 - a^2}{2bc} = \frac{26^2 + 27,3^2 - 16,4^2}{2 \cdot 26 \cdot 27,3} = 0,8$   
 $\alpha = 36,87^\circ$

$\frac{a}{\sin \alpha} = \frac{b}{\sin \beta}$   
 $\sin \beta = \frac{\sin \alpha \cdot b}{a} = \frac{\sin 36,87^\circ \cdot 26}{16,4} = 0,92$   
 $\beta = 67^\circ$

$\frac{a}{\sin \alpha} = \frac{c}{\sin \gamma}$   
 $\sin \gamma = \frac{\sin \alpha \cdot c}{a} = \frac{\sin 36,87^\circ \cdot 27,3}{16,4} = 0,969$   
 $\gamma = 75,7^\circ$

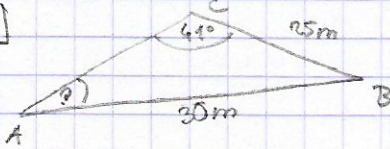
Ex 2)



$b = 250\text{m}$   
 $c = 360\text{m}$   
 $\alpha = 34^\circ$

$a^2 = b^2 + c^2 - 2bc \cdot \cos \alpha$   
 $a^2 = 250^2 + 360^2 - 2 \cdot 250 \cdot 360 \cdot \cos 34 = 42873,24$   
 $a = \sqrt{42873,24} = 207,1\text{m}$

Ex 3)



$a = 25\text{m}$   
 $c = 30\text{m}$   
 $\gamma = 41^\circ$   
 $\alpha = ?$

$\frac{a}{\sin \alpha} = \frac{c}{\sin \gamma}$   
 $\sin \alpha = \frac{\sin \gamma \cdot a}{c} = \frac{\sin 41^\circ \cdot 25}{30} = 33,14^\circ = 33^\circ$

Devoir 10:

1) a)  $(-2)^3 \cdot (-1)^3 \cdot (-4)^2 = (-8) \cdot (-1) \cdot 16 = 128$   
 b)  $2a^3 - 3(-a)^5 + (-a^3) + 2(-a^5) = 2a^3 + 3a^5 - a^3 - 2a^5 = a^3 + a^5$   
 c)  $(-x)^2 \cdot (-x)^4 + \frac{x^9}{x^3} + 3(x^2)^3 - 5(-x)^6 = x^2 \cdot x^4 + x^6 + 3x^6 - 5x^6 = x^8 + x^6 + 3x^6 - 5x^6 = x^8 + x^6 + 3x^6 - 5x^6 = 0$

2) a)  $\frac{8 \cdot 32}{16 \cdot 125} = \frac{2^3 \cdot 2^5}{2^4 \cdot 5^3} = \frac{2^8}{5^3}$       b)  $\frac{81 \cdot 16}{27 \cdot 64} = \frac{3^4 \cdot 4^2}{3^3 \cdot 4^3} = \frac{3}{4}$

3) a)  $\frac{a^3 \cdot b^3 \cdot a^4 \cdot b^5}{a \cdot b^4 \cdot a^4 \cdot b^2} \cdot \frac{1}{a^2 \cdot b^2} = \frac{a^7 \cdot b^8 \cdot 1}{a^7 \cdot b^8} = 1$       cond:  $a \neq 0$   $b \neq 0$

b)  $\left[ 16a^4 \left( \frac{1}{a^2} \right)^3 \cdot \left( \frac{a}{2} \right)^4 \right]^3 = 2^{12} a^{12} \cdot \frac{1}{a^{18}} \cdot \frac{a^{12}}{2^{12}} = \frac{2^{12} \cdot a^{12} \cdot a^{12}}{a^{18} \cdot 2^{12}} = a^6$       cond:  $a \neq 0$

c)  $\frac{2^5 \cdot (2b^3x^3)^2}{2 \cdot (2b^2x^2)^3} = \frac{2^7 \cdot b^6 \cdot x^6}{2^4 \cdot b^6 \cdot x^6} = 2^3 \cdot b^0 = 8b^3$       cond:  $b \neq 0$   $x \neq 0$

d)  $\left( \frac{x^2 z^3}{y^3} \right)^{-4} = \frac{z^{-12}}{y^{-12}} \cdot \frac{y^{12}}{z^{12}}$        $y \neq 0; z \neq 0$

e)  $2 \cdot \left[ \left( -\frac{x}{y} \right)^2 \cdot \frac{y}{x} \right]^3 : \left( \frac{y}{x} \right)^4 = 2 \cdot \frac{x^6 \cdot y^2 \cdot x^{41}}{y^6 \cdot x^3 \cdot y^4} = 2 \cdot \frac{x^7}{y^7}$        $y; x \neq 0$

f)  $\left[ \left( \frac{r}{3} \right)^2 \cdot \left( \frac{3}{r} \right)^3 \cdot \frac{r^2}{3^2} \cdot \left( -\frac{2r}{3} \right) \right]^{-2} = \frac{3^4}{r^4} \cdot \frac{r^6}{3^6} \cdot \frac{3^4}{r^4} \cdot \frac{3^2}{2r^2} = \frac{3^4}{4r^4} = 2^{-2} \left( \frac{3}{r} \right)^4$        $r \neq 0; 3 \neq 0$

g)  $\frac{(x-y)^3 \cdot (x-y)^4}{(y-x)^5} : (x-y)^2 = \frac{(x-y)^7}{(y-x)^5 \cdot (x-y)^2} = \frac{(x-y)^5}{(y-x)^5} = \frac{(x-y)^5}{(y-x)^5} = -1$        $x \neq y$

h)  $\frac{(r-s)^2 \cdot (s-r)^2}{r^2 s^3} \cdot \frac{r^6 \cdot s^3}{r-s} = \frac{(r-s)^2 \cdot (s-r)^2 \cdot r^4 \cdot s^3}{r^2 s^3 \cdot (r-s)} = (r-s) \cdot (s-r)^2 \cdot r^4 = -1(s-r) \cdot (s-r)^2 \cdot r^4 = (r-s) \cdot (-1(r-s)) \cdot (-1(r-s)) \cdot r^4 = (r-s)^3 \cdot r^4$        $r \neq s$   $r \neq 0$   $s \neq 0$