A5 & A6 – MAT B: 8/2 2017

- Tilstedeværelsesregistrering
- Meddelelser. Spørgsmål?
- Opsamling fra sidst
  - En frivillig gennemgår beviset for faktoriserings-sætningen.
- Nyt stof:
  - Sætningen om ensvinklede trekanter MFS (19)
  - To beviser for Pythagoras sætning. MFS (21) AB1, side 199-204.

FORKORT BROKEN

$$\frac{3x^2+14x-5}{4x^2+21x+5}=$$

$$\frac{3\cdot(x-\frac{1}{3})\cdot(x-(-5))}{4\cdot(x-(-\frac{1}{4}))\cdot(x-(-5))}=$$

$$\frac{3(x-\frac{1}{3})}{4(x+\frac{1}{4})}=$$

$$\frac{3x-3\cdot\frac{1}{3}}{4x+4\frac{1}{4}}=\frac{3x-1}{4x+1}$$

$$3x^2+14x-5=0$$

$$d=14^2-4\cdot3\cdot(-5)=256$$

$$x=\frac{-14\pm\sqrt{256}}{2\cdot3}=\frac{-14\pm16}{6}$$

$$x=\begin{cases}\frac{1}{3}=x_1\\-5=x_2\end{cases}$$

$$3x^2+14x-5=3\cdot(x-\tfrac{1}{3})(x-(-5))$$

$$4x^2+21x+5=0$$

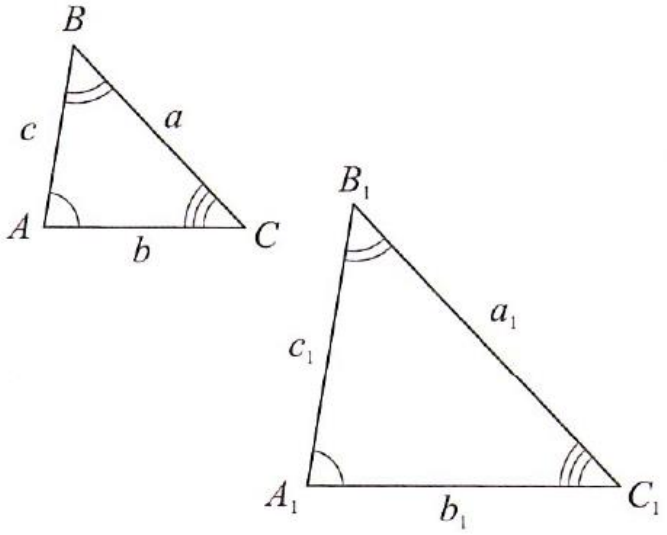
$$d=21^2-4\cdot4\cdot5=361$$

$$x=\frac{-21\pm\sqrt{361}}{2\cdot4}=\frac{-21\pm19}{8}$$

$$x=\begin{cases}-\frac{1}{4}=x_1\\-5=x_2\end{cases}$$

$$4x^2+21x+5=4\cdot(x-(-\tfrac{1}{4}))(x-(-5))$$

Ensvinklede trekanter



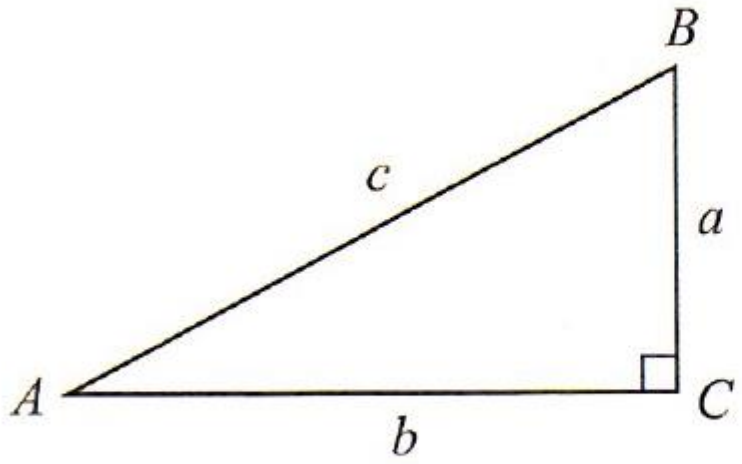
$$(19) \qquad \frac{a_1}{a} = \frac{b_1}{b} = \frac{c_1}{c} = k$$

$$a_1 = k \cdot a$$

$$(20) \qquad b_1 = k \cdot b$$

$$c_1 = k \cdot c$$

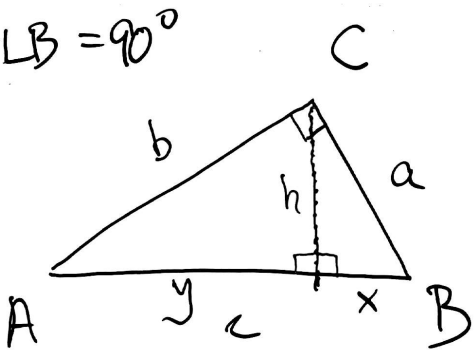
Retvinklet trekant

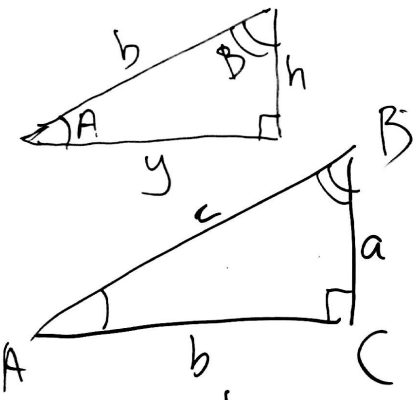


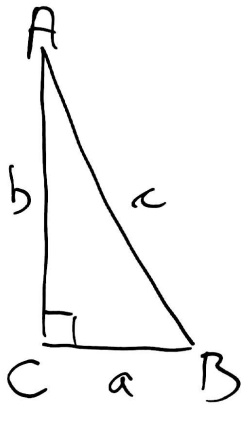
Pythagoras' sætning (21) $c^2 = a^2 + b^2$

Klik på linket og se masser af beviser for denne sætning

$\angle A + \angle B = 90^\circ$







$$\frac{x}{a} = \frac{a}{c} \iff$$

$$a \cdot c \cdot \frac{x}{a} = a \cdot c \cdot \frac{a}{c} \iff$$

$$\frac{a \cdot c \cdot x}{a} = \frac{a \cdot c \cdot a}{c} \iff$$

$$c \cdot x = a \cdot a$$

$$\frac{x}{a} = \frac{a}{c} \iff xc = a \cdot a \iff \underline{xc = a^2}$$

$$a^2 + b^2 = x \cdot c + y \cdot c = (x+y) \cdot c$$

$$= c \cdot c = c^2$$

$$\frac{y}{b} = \frac{b}{c} \iff y \cdot c = b \cdot b \iff$$

$$\underline{y \cdot c = b^2}$$

$$\underline{a^2 + b^2 = c^2}$$