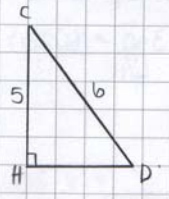
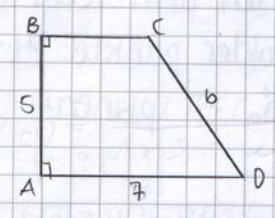
STX081-MAA_Opgave 6_ Trigonometri_Hånd

PRØVEN MED HJÆLPEMIDLER

Opgave 6:





Her ses en skitse af trekant CDH og firkant ABCD

a) Bestem $\angle D$ i trekant CDH:

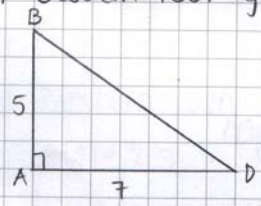
- Benytter sinus for retvinklede trekanter:

$$\sin(D) = \frac{5}{6}$$

$$D = \sin^{-1}\left(\frac{5}{6}\right)$$

$$\underline{D = 56{,}44^\circ}$$

b) Bestem $|BD|$ og $|AC|$ i firkant ABCD:



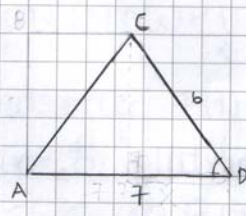
- Bestemmer $|BD|$, vha pythagoras' sætning:

$$c^2 = a^2 + b^2$$

$$|BD|^2 = 5^2 + 7^2$$

$$|BD| = \sqrt{25 + 49}$$

$$\underline{|BD| = 8{,}6}$$



- Bestemmer $|AC|$ vha cosinusrelationerne:

$$d^2 = a^2 + c^2 - 2ac \cdot \cos(D)$$

$$|AC|^2 = 6^2 + 7^2 - 2 \cdot 6 \cdot 7 \cdot \cos(56{,}44^\circ)$$

$$|AC| = \sqrt{85 - 84 \cdot \cos(56{,}44^\circ)}$$

$$\underline{|AC| = 6{,}17}$$

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