Repetition av algebra och ekvationer

Ex) Förenkla de algebraiska uttrycken

a) $3(x+1)-(23-x)$

b) $-4(2x-4)-2(x+2)$

c) $a^2(a+b)-a(a^2+3a+2b)$

Regler:

$a(b+c)=ab+ac$

$-a(b+c)=-ab-ac$

$-(a+b)=-a-b$

a) $3(x+1)-(23-x)=3x+3-23+x=4x-20$

b) $-4(2x-4)-2(x-2)=-8x+16-2x+4=-10x+20$

c) $a^2(a+b)-a(a^2+3a+2b)=a^3+a^2b-a^3-3a^2-2ab$

$=a^2b-3a^2-2ab$

Ex Lös ekvationerna

a) $2x+3(x+7)=26$

b) $\frac{x}{3}+\frac{2x}{5}=7$

c) $\frac{3}{x}+\frac{2}{3x}=1$

a) $2x + 3(x+7) = 26$

$2x + 3x + 21 = 26$

$5x + 21 = 26$

$5x = 5$

$x = 1$

b) $\frac{x}{3} + \frac{2x}{5} = 7$

$\frac{5x}{15} + \frac{6x}{15} = 7$

$\frac{11x}{15} = 7$

$11x = 7 \cdot 15$

$11x = 105$

$x = \frac{105}{11}$

c) $\frac{3}{x} + \frac{2}{3x} = 1$

$\frac{9}{3x} + \frac{2}{3x} = 1$

$\frac{11}{3x} = 1$

$3x = 11$

$x = \frac{11}{3}$