

$$1313_{\text{five}} = 1 \cdot 4^3 + 3 \cdot 4^2 + 1 \cdot 4 + 3$$

$$= 64 + 48 + 4 + 3 = \underline{\underline{119}}$$

$$5213_{\text{seven}} = 5 \cdot 6^3 + 2 \cdot 6^2 + 1 \cdot 6 + 3$$

$$= 5 \cdot 216 + 2 \cdot 36 + 6 + 3$$

$$= 1080 + 72 + 6 + 3$$

$$= \underline{\underline{1161}}$$

aug. 31-13.12

$$J) AB E F I_{\text{hex}} =$$

$$10 \cdot 16^4 + 11 \cdot 16^3 + 14 \cdot 16^2 + 15 \cdot 16 + 1 =$$

$$= 10 \cdot 65536 + 11 \cdot 4096 + 14 \cdot 256 + 240 + 1$$

$$= \underline{\underline{704241}}$$

$$\left. \begin{array}{l} A = 10 \\ B = 11 \\ C = 12 \\ D = 13 \\ E = 14 \\ F = 15 \end{array} \right\}$$

$$34_{\text{ti}} = ?_{\text{syv}}$$

$$34 = 4 \cdot 7 + 6 = 46_{\text{syv}}$$

$$\begin{array}{c} \diagdown \quad \diagup \\ 46 \end{array}$$

aug. 31-13.31

$$44_{ti} = ? \text{ älk}$$

$$44 = 5 \cdot 8 + 4 = 54_{\text{älk}}$$



$$54_{ti} = ? \text{ ni}$$

$$54 = 6 \cdot 9 + 0 = 60_{ni}$$



aug. 31-13.37

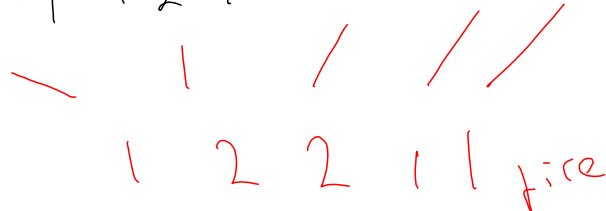
1.2a)

$$421 = ? \text{ fire}$$

$$421 = 1 \cdot 4^4 + 165$$

$$= 1 \cdot 4^4 + 2 \cdot 4^3 + 37$$

$$= 1 \cdot 4^4 + 2 \cdot 4^3 + 2 \cdot 4^2 + 4 + 1$$



$$4^1 = 4$$

$$4^2 = 16$$

$$4^3 = 64$$

$$4^4 = 256$$

$$4^5 = 1024$$

$$421 - 256$$

$$= 165 - 128$$

$$= 37$$

aug. 31-13.40

b)  $219 = ?_{\text{tre}}$

$$2 \cdot 3^4 + 2 \cdot 3^3 + 0 \cdot 3^2 + 1 \cdot 3 + 0$$

/ / | / /

2 2 0 1 0 tre

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$387 = ?_{\text{hex}}$

$$387 = 1 \cdot 16^2 + 8 \cdot 16 + 3 = 183_{\text{hex}}$$

/ | /

1 8 3 hex

$3^1 = 3$   
 $3^2 = 9$   
 $3^3 = 27$   
 $3^4 = 81$

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$219 - 162$   
 $= 57$   
 $57 - 54 = 3$

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$16^1 = 16$   
 $16^2 = 256$   
 $387 - 256$   
 $131 - 8 \cdot 16$   
 $131 - 128$

aug. 31-13.44

$912 = ?_{\text{alle}}$

$$912 = 1 \cdot 8^3 + 6 \cdot 8^2 + 2 \cdot 8 + 0 = \underline{\underline{1620}}_{\text{alle}}$$

/ | / /

1 6 2 0 alle

$8^2 = 64$   
 $8^3 = 512$

$912 - 512$   
 $400$   
 $400 - 6 \cdot 64$   
 $400 - 384 =$   
 $16$

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1.3      $54_v = 49_{\text{E}}$       $5 \cdot 9 + 4 = 49$

~~6, 7, 8, 9~~

Prøver 8      $5 \cdot 8 + 4 = 44$  ⚡     ni kallsyke med.

aug. 31-13.50

$$54_G = 49_{10}$$

$$5 \cdot G + 4 = 49$$

(G er den ukjente)

$$5G = 49 - 4$$

$$5G = 45$$

$$\underline{\underline{G = 9}}$$

ni-kallsystem

$$33_G = 36_{10}$$

$$\text{Ellve: } 3 \cdot 11 + 3 = 36$$

$$\underline{\underline{G = \text{elleve}}}$$

Prøver elleve, hots

aug. 31-13.57

$$33_G = 36$$

$$3 \cdot G + 3 = 36$$

$$3G = 36 - 3$$

$$3G = 33$$

$$\underline{\underline{G = 11}}$$

$$c) 352_G = 184_{10}$$

Mulige alt: ~~6, 7, 8, 9~~

$$3 \cdot 7^2 + 5 \cdot 7 + 2 =$$

$$3 \cdot 49 + 35 + 2 = 184$$

Syv-kallsystemet er kallet

shrevet i

aug. 31-14.01

$$352x = 184$$

$$3x^2 + 5x + 2 = 184$$

$$3x^2 + 5x - 182 = 0$$

$$x = \frac{-5 \pm \sqrt{5^2 - 4 \cdot 3 \cdot (-182)}}{3 \cdot 2}$$

$$= \frac{-5 \pm \sqrt{25 + 2184}}{6}$$

$$= \frac{-5 \pm \sqrt{2209}}{6} = \frac{-5 \pm 47}{6} = \frac{-5 + 47}{6} = \underline{\underline{7}}$$

aug. 31-14.05

Oppgaver

$$51x = 61 \text{ ti}$$

$$64x = 52 \text{ ti}$$

$$78x = 106 \text{ ti}$$

$$124x = 67 \text{ ti}$$

$$236x = 281 \text{ ti}$$

aug. 31-14.10

$$51x = 61 \text{ ti: } (11, 12, 13) \quad | \quad 64x = 52 \quad (7, 8, 9)$$

$$5 \cdot 12 + 1 = 61$$

$$x = 12$$

$$5x + 1 = 61$$

$$5x = 60$$

$$x = 12$$

$$0, 1, 2, \dots, 9, A, B$$

$$6 \cdot 8 + 4 = 52$$

$$6 \cdot x + 4 = 52$$

$$6x = 48$$

$$\underline{\underline{x = 8}}$$

aug. 31-14.36

$$78x = 106 \text{ ti: } (13, 14, 15) \quad | \quad 124x = 67 \text{ ti: } (\cancel{6}, 7, 8)$$

$$7 \cdot 13 + 8 = 91 + 8 = 99$$

$$7 \cdot 14 + 8 = 98 + 8 = 106$$

$$7 \cdot x + 8 = 106$$

$$7x = 106 - 8$$

$$7x = 98$$

$$\underline{\underline{x = 14}}$$

$$1 \cdot 6^2 + 2 \cdot 6 + 4 = 36 + 12 + 4 = \underline{\underline{52}}$$

$$1 \cdot 7^2 + 2 \cdot 7 + 4 = 49 + 14 + 4 = \underline{\underline{67}}$$

syvkalldssystemet.

aug. 31-14.41

$$124x = 67$$

$$x^2 + 2x + 4 = 67$$

$$x^2 + 2x - 63 = 0$$

$$x = \frac{-2 \pm \sqrt{2^2 - 4 \cdot 1 \cdot (-63)}}{2 \cdot 1}$$

$$= \frac{-2 \pm \sqrt{4 + 252}}{2}$$

$$= \frac{-2 \pm \sqrt{256}}{2} = \frac{-2 \pm 16}{2} = \frac{-2 + 16}{2} = \underline{\underline{7}}$$

aug. 31-14.48

$$236x = 281 \text{ ti } (11, \cancel{12}, 13)$$

$$2 \cdot 12^2 + 3 \cdot 12 + 6 = 2 \cdot 144 + 36 + 6 = 330$$

$$2 \cdot 11^2 + 3 \cdot 11 + 6 = 2 \cdot 121 + 33 + 6 = 281$$

$$\underline{\underline{x = 11}}$$

aug. 31-14.51

$$236_x = 281_{ti}$$

$$2x^2 + 3x + 6 = 281$$

$$2x^2 + 3x - 275 = 0$$

$$x = \frac{-3 \pm \sqrt{3^2 - 4 \cdot 2 \cdot (-275)}}{2 \cdot 2}$$

$$x = \frac{-3 \pm \sqrt{9 + 2200}}{4}$$

$$x = \frac{-3 \pm \sqrt{2209}}{4} = \frac{-3 + 47}{4} = \underline{\underline{11}}$$

aug. 31-14.54