

Facit til Kerne stof Mat 1 STX – Trænings sider 11

1

- a) 1
- b) 1
- c) 1

2

- a) 1
- b) 1
- c) 1

3

- a) 1
- b) 1
- c) 1

4

- a) 4
- b) $\frac{1}{6}$
- c) 5

5

- a) 2
- b) $\frac{1}{2}$
- c) 10

6

- a) $\frac{1}{9}$
- b) $\frac{1}{10}$
- c) 2

7

- a) 7
- b) 4
- c) 64

8

- a) 1
- b) 10
- c) 4

9

- a) $6^2 = 36$
- b) $2^8 = 4^4 = 256$
- c) $2^2 = 4$

10

- a) $3(x-2) = 6$
 $3x-6 = 6$
 $3x-6+6 = 6+6$
 $3x = 12$
 $\frac{3x}{3} = \frac{12}{3}$
 $x = 4$
- b) $1-2x = -3x+1$
 $1-2x+3x = -3x+1+3x$
 $1+x = 1$
 $1+x-1 = 1-1$
 $x = 0$
- c) $2 - (x-1) = 6$
 $2-x+1 = 6$
 $3-x = 6$
 $3-x-3 = 6-3$
 $-x = 3$
 $x = -3$

11

- a) $5+3(3-x) = 14$
 $5+9-3x = 14$
 $14-3x = 14$
 $14-3x-14 = 14-14$
 $-3x = 0$
 $x = 0$
- b) $1-3(2-x) = x$
 $1-6+3x = x$
 $-5+3x = x$
 $-5+3x-3x = x-3x$
 $-5 = -2x$
 $\frac{-5}{-2} = \frac{-2x}{-2}$
 $\frac{5}{2} = x$

$$\begin{aligned}
 \text{c) } & 2-3(1+2x) = 5 \\
 & 2 - 3 - 6x = 5 \\
 & -1 - 6x = 5 \\
 & -1 - 6x + 1 = 5 + 1 \\
 & -6x = 6 \\
 & \frac{-6x}{-6} = \frac{6}{-6} \\
 & x = -1
 \end{aligned}$$

12

$$\begin{aligned}
 \text{a) } & 8+3(x-1) = 2(1-x) \\
 & 8+3x-3=2-2x \\
 & 5+3x=2-2x \\
 & 5+3x+2x=2-2x+2x \\
 & 5+5x=2 \\
 & 5+5x-5=2-5 \\
 & 5x=-3 \\
 & \frac{5x}{5} = \frac{-3}{5} \\
 & x = \frac{-3}{5}
 \end{aligned}$$

$$\begin{aligned}
 \text{b) } & 6+4(3+2x)=4+x \\
 & 6+12+8x = 4+x \\
 & 18+8x = 4+x \\
 & 18+8x-18=4+x-18 \\
 & 8x = -14+x \\
 & 8x-x=-14+x-x \\
 & 7x=-14 \\
 & \frac{7x}{7} = \frac{-14}{7} \\
 & x = -2
 \end{aligned}$$

$$\begin{aligned}
 \text{c) } & 4-3(1-x) = 1+2(1-x) \\
 & 4-3+3x = 1+2-2x \\
 & 1+3x=3-2x \\
 & 1+3x+2x=3-2x+2x \\
 & 1+5x = 3 \\
 & 1+5x-1=3-1 \\
 & 5x=2 \\
 & \frac{5x}{5} = \frac{2}{5} \\
 & x = \frac{2}{5}
 \end{aligned}$$

13

- a) $x+3(x-2)=10$
 $x+3x-6=10$
 $4x-6=10$
 $4x-6+6=10+6$
 $4x=16$
 $\frac{4x}{4} = \frac{16}{4}$
 $x=4$
- b) $3-2x+1=2$
 $4-2x=2$
 $4-2x-4=2-4$
 $-2x=-2$
 $\frac{-2x}{-2} = \frac{-2}{-2}$
 $x=1$
- c) $4-2(x-1)=3$
 $4-2x+2=3$
 $6-2x=3$
 $6-2x-6=3-6$
 $-2x=-3$
 $\frac{-2x}{-2} = \frac{-3}{-2}$
 $x=1,5$

14

- a) $1+2(1-4x)=19$
 $1+2-8x=19$
 $3-8x=19$
 $3-8x-3=19-3$
 $-8x=16$
 $\frac{-8x}{-8} = \frac{16}{-8}$
 $x=-2$
- b) $2-x(7-2)=5x$
 $2-x(5)=5x$
 $2-5x=5x$
 $2-5x+5x=5x+5x$
 $2=10x$
 $\frac{2}{10} = \frac{10x}{10}$
 $\frac{1}{5} = x$

$$\begin{aligned}
\text{c) } & -3(2-x)=2-x \\
& -6+3x=2-x \\
& -6+3x+6=2-x+6 \\
& 3x=-x+8 \\
& 3x+x=-x+8+x \\
& 4x=8 \\
& \frac{4x}{4}=\frac{8}{4} \\
& x=2
\end{aligned}$$

15

$$\begin{aligned}
\text{a) } & 4-3(x-2)=7x \\
& 4-3x+6=7x \\
& 10-3x=7x \\
& 10-3x+3x=7x+3x \\
& 10=10x \\
& \frac{10}{10}=\frac{10x}{10} \\
& 1=x
\end{aligned}$$

$$\begin{aligned}
\text{b) } & 6+2(7+x)=30 \\
& 6+14+2x=30 \\
& 20+2x=30 \\
& 20+2x-20=30-20 \\
& 2x=10 \\
& \frac{2x}{2}=\frac{10}{2} \\
& x=5
\end{aligned}$$

$$\begin{aligned}
\text{c) } & 2(3-x)=-4-3x \\
& 6-2x=-4-3x \\
& 6-2x+3x=-4-3x+3x \\
& 6+x=-4 \\
& 6+x-6=-4-6 \\
& x=-10
\end{aligned}$$

16

$$\text{a) } \frac{1}{2} = \frac{2}{3} \cdot \frac{3}{4}$$

$$\text{b) } \frac{1}{2} \cdot \frac{1}{2} = \frac{1}{4}$$

$$\text{c) } \frac{1}{6} \cdot \frac{1}{2} = \frac{1}{12}$$

17

$$\text{a) } \frac{10}{18} = \frac{5}{6}$$

$$\text{b) } \frac{4}{6} = \frac{2}{3}$$

18

a) $\frac{10}{3}$

b) $\frac{2}{3}$

19

a) $\frac{6}{6}=1$

b) $\frac{4}{5}$

20

a) $\frac{6}{4}=\frac{3}{2}$

b) $\frac{40}{6}=\frac{20}{3}$

21

a) $\frac{18}{9}=2$

b) $\frac{18}{18}=1$

c) $\frac{30}{2}=15$

22

a) $\frac{4}{10}=\frac{2}{5}$

b) $\frac{18}{4}=\frac{9}{2}$

c) $\frac{32}{6}=\frac{16}{3}$

23

a) $\frac{6}{10}=\frac{3}{5}$

b) $\frac{20}{25}=\frac{4}{5}$

c) $\frac{6}{12}=\frac{1}{2}$