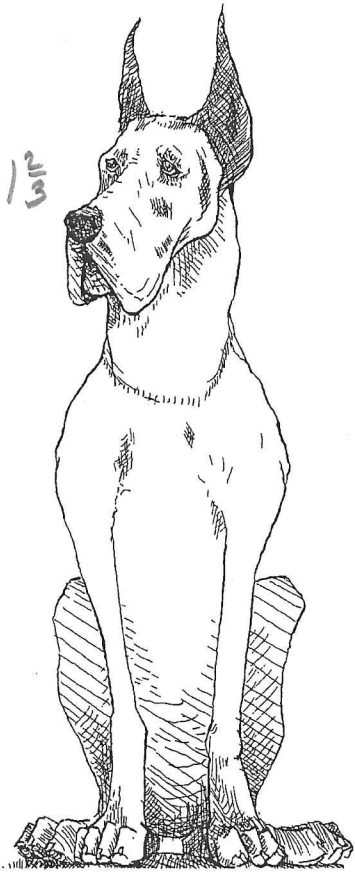


54. Murtolukulausekkeitä

Nimi:

1. Laske

$2 \cdot \frac{1}{2} + \frac{1}{2} = 1\frac{1}{2}$ K $\frac{2}{1} \cdot \frac{1}{2} + \frac{1}{2} = 1 + \frac{1}{2} = 1\frac{1}{2}$	$2 + \frac{1}{2} \cdot \frac{2}{3} = 2\frac{1}{3}$ D $2 + \frac{1}{3} = 2\frac{1}{3}$
$\left(\frac{1}{2} + \frac{1}{2}\right) \cdot \left(-\frac{1}{3}\right) = -\frac{1}{3}$ N $\frac{2}{2} \cdot \left(-\frac{1}{3}\right) = 1 \cdot \left(-\frac{1}{3}\right) = -\frac{1}{3}$	$2 \cdot \left(\frac{1}{2} + \frac{1}{3}\right) = 1\frac{2}{3}$ A $2 \cdot \left(\frac{3}{6} + \frac{2}{6}\right) = 2 \cdot \frac{5}{6} = \frac{10}{6} = \frac{5}{3} = 1\frac{2}{3}$
$\frac{2}{3} \cdot 3 + 2 = 4$ O $2 + 2 = 4$	$\left(\frac{5}{1} \cdot \frac{1}{7}\right) : \frac{1}{7} = 5$ G $\frac{5}{7} \cdot \frac{7}{1} = 5$
$\left(\frac{2}{3} + \frac{3}{4}\right) - \left(\frac{1}{2} \cdot \frac{5}{6}\right) = 1$ S $\left(\frac{8}{12} + \frac{9}{12}\right) - \frac{5}{12} = \frac{8+9-5}{12} = \frac{12}{12} = 1$	$-\frac{2}{5} : \frac{1}{5} - 1 = -3$ A $-\frac{2}{5} \cdot \frac{5}{1} - 1 = -2 - 1 = -3$
$\left(\frac{1}{5} + \frac{5}{2}\right) : \frac{1}{10} = 7$ G $\left(\frac{2}{10} + \frac{5}{10}\right) \cdot \frac{10}{1} = \frac{7}{10} \cdot \frac{10}{1} = 7$	$2 : \frac{1}{3} + 1\frac{1}{2} = 7\frac{1}{2}$ I $2 \cdot \frac{3}{1} + 1\frac{1}{2} = 6 + 1\frac{1}{2} = 7\frac{1}{2}$
$\left(-\frac{3}{4} + \frac{1}{4}\right) : \frac{1}{8} = -4$ T $-\frac{2}{4} \cdot \frac{8}{1} = -\frac{4}{1} = -4$	$\left(\frac{7}{8} + \frac{1}{4}\right) \cdot 2 = 2\frac{1}{4}$ N $\left(\frac{7}{8} + \frac{2}{8}\right) \cdot 2 = \frac{9}{8} \cdot \frac{2}{1} = \frac{9}{4} = 2\frac{1}{4}$



-4	-3	$-\frac{1}{3}$	1	$1\frac{1}{2}$	$1\frac{2}{3}$	$2\frac{1}{4}$	$2\frac{1}{3}$	4	5	7	$7\frac{1}{2}$
T	A	N	S	K	A	N	D	O	G	G	I

2. Laske

$\frac{1}{3} = \frac{5}{3}$
 a) $\frac{1}{2} \cdot \left(1 + \frac{2}{3}\right) = \frac{5}{6}$ b) $\frac{1}{3} \cdot \frac{11}{17} \cdot \frac{17}{18} \cdot 18 = 3\frac{2}{3}$ $\frac{1}{3} = 3\frac{2}{3}$
 c) $-\frac{2}{3} \cdot \left(\frac{1}{4} - \frac{1}{5}\right) = -\frac{1}{30}$ d) $\left(1 - \frac{1}{5}\right) : \frac{4}{5} = 1$ $\frac{4}{5} \cdot \frac{5}{4} = 1$
 e) $\left(\frac{1}{7} - \frac{4}{7}\right)^2 \cdot (-7) = -1\frac{2}{7}$ f) $\left(\frac{3}{4} - \frac{1}{2}\right) : \left(\frac{3}{4} + \frac{1}{2}\right) = \frac{1}{5}$ $\left(\frac{3}{4} - \frac{2}{4}\right) : \left(\frac{3}{4} + \frac{2}{4}\right) = \frac{1}{4} : \frac{5}{4} = \frac{1}{5}$

1	$\frac{6}{5}$	$-\frac{2}{7}$	$3\frac{2}{3}$	$\frac{5}{6}$	$-\frac{1}{30}$	$\frac{1}{5}$
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$\left(\frac{3}{7}\right)^2 = \left(\frac{3}{7}\right) \cdot \left(\frac{3}{7}\right) = \frac{9}{49}$ $\frac{9}{49} \cdot \left(-\frac{7}{1}\right) = -\frac{9}{7} = -1\frac{2}{7}$

1. Valitse sopiva nimitystä ja laenna seuraavat murtoluvut samannimisiksi.

a) $\frac{1}{2}$, $\frac{1}{4}$ ja $\frac{1}{8}$ b) $\frac{3}{5}$, $\frac{7}{10}$ ja $\frac{2}{5}$ c) $\frac{3}{4}$, $\frac{1}{6}$ ja $\frac{5}{8}$
 $\frac{4}{8}$, $\frac{2}{8}$, $\frac{1}{8}$ $\frac{18}{30}$, $\frac{21}{30}$, $\frac{4}{30}$ $\frac{18}{24}$, $\frac{4}{24}$, $\frac{15}{24}$

2. Muunna murtoluvut sekalukumuotoon.

a) $\frac{12}{5} = 2\frac{2}{5}$ b) $\frac{23}{6} = 3\frac{5}{6}$
 c) $\frac{34}{11} = 3\frac{1}{11}$ d) $\frac{32}{7} = 4\frac{4}{7}$

3. Muunna sekaluvut murtolukumuotoon.

a) $2\frac{3}{5} = \frac{13}{5}$ b) $3\frac{1}{4} = \frac{13}{4}$
 c) $6\frac{2}{7} = \frac{44}{7}$ d) $1\frac{4}{13} = \frac{17}{13}$

4. Järjestä murtoluvut kasvavaan suuruusjärjestykseen laentamalla ne ensiksi samannimisiksi.

a) $\frac{5}{8}$, $\frac{3}{4}$, $\frac{7}{12}$, $\frac{1}{6}$ ja $\frac{2}{3}$ b) $\frac{2}{9}$, $\frac{1}{4}$, $\frac{5}{12}$, $\frac{1}{2}$ ja $\frac{13}{18}$
 $\frac{3 \cdot 15}{24}$, $\frac{5 \cdot 18}{24}$, $\frac{2 \cdot 14}{24}$, $\frac{1 \cdot 4}{24}$, $\frac{4 \cdot 16}{24}$ $\frac{2 \cdot 2 \cdot 9}{36}$, $\frac{1 \cdot 4 \cdot 9}{36}$, $\frac{2 \cdot 5 \cdot 12}{36}$, $\frac{4 \cdot 12}{36}$, $\frac{5 \cdot 26}{36}$

5. Merkitse oikea järjestysmerkki (<, =, >) tyhjiään ruutuun.

a) $\frac{2}{7} > \frac{1}{5}$ b) $\frac{4}{11} = \frac{16}{44}$ c) $\frac{5}{8} > \frac{3}{6}$
 d) $-\frac{3}{5} < -\frac{1}{5}$ e) $-\frac{4}{7} < -\frac{19}{35}$ f) $-\frac{7}{9} < -\frac{5}{12}$

6. Laske.

a) $\frac{2}{7} + \frac{3}{7} = \frac{5}{7}$ b) $\frac{4}{9} - \frac{1}{3} = \frac{1}{9}$ c) $\frac{2}{3} + \frac{3}{5} = \frac{17}{15}$
 d) $2\frac{1}{6} - \frac{5}{6} = \frac{13}{6}$ e) $4\frac{1}{6} + \frac{2}{5} = 4\frac{13}{30}$ f) $\frac{1}{2} + \frac{1}{3} - \frac{3}{4} = \frac{1}{12}$

7. Laske.

a) $\frac{1}{4} \cdot \frac{7}{8} = \frac{7}{32}$ b) $\frac{3}{8} \cdot \frac{4}{5} = \frac{3}{10}$ c) $\frac{5}{6} \cdot \frac{4}{3} = \frac{3}{4}$
 d) $\frac{3}{11} : \frac{3}{22} = 2$ e) $1\frac{2}{9} \cdot \frac{3}{11} = \frac{1}{3}$ f) $3\frac{1}{3} : \frac{5}{2} = \frac{13}{5}$

Ratkaise salasana laskemalla tehtävät ja merkitsemällä taulukkoon vastauksen kirjain.

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
R	A	T	I	O	N	A	A	L	I	L	U	K	U	J	O	U	K	K	O	A

1. $\frac{4}{13} + \frac{5}{13} = \frac{9}{13}$ 2. $\frac{1}{5} + \frac{2}{5} = \frac{3}{5}$ 3. $\frac{9}{19} - \frac{6}{19} = \frac{3}{19}$
 4. $1 - \frac{7}{11} = \frac{4}{11}$ 5. $\frac{5}{6} - \frac{2}{7} = \frac{23}{42}$ 6. $\frac{7}{9} - \frac{3}{7} = \frac{22}{63}$
 7. $2\frac{2}{5} - 1\frac{4}{5} = \frac{3}{5}$ 8. $\frac{4}{5} - \frac{2}{10} = \frac{3}{5}$ 9. $3 - 2\frac{4}{7} - \frac{2}{7} = \frac{1}{7}$
 10. $\frac{2}{3} \cdot \frac{9}{22} = \frac{3}{11}$ 11. $\frac{3}{14} : \frac{3}{2} = \frac{1}{7}$ 12. $\frac{3}{8} : \frac{6}{4} = \frac{1}{4}$
 13. $1\frac{2}{3} = \frac{1}{3}$ 14. $\frac{3}{4} \cdot \frac{2}{5} : \frac{6}{5} = \frac{1}{4}$ 15. $\frac{3}{8} - \frac{2}{3} + \frac{1}{4} = -\frac{1}{24}$
 16. $\frac{5}{6} \cdot \frac{2}{7} : \frac{10}{23} = \frac{23}{42}$ 17. $\frac{1}{3} + \frac{5}{6} - \frac{11}{12} = \frac{1}{4}$ 18. $\frac{5}{12} : 1\frac{1}{4} = \frac{1}{3}$
 19. $\frac{1}{6} + \frac{1}{2} - \frac{1}{3} = \frac{1}{3}$ 20. $\frac{10}{21} + \frac{5}{14} - \frac{2}{7} = \frac{23}{42}$ 21. $\frac{3}{5} - \frac{1}{10} - \frac{1}{2} = 0$

Ratkaisuja:

A $\frac{1}{3}$ B $\frac{4}{11}$ C $-\frac{1}{24}$ D $-\frac{1}{3}$ E $\frac{1}{7}$ F $\frac{22}{63}$ G $\frac{23}{42}$ H 0 I 0 J $\frac{9}{13}$ K $\frac{3}{19}$ L $\frac{1}{4}$ M $\frac{1}{3}$ N $\frac{1}{11}$

