



### 3a Avaluació: Operacions matemàtiques

Data:

NOM ALUMNE/A: *Correcció*

1. Efectua les següents operacions amb fraccions:

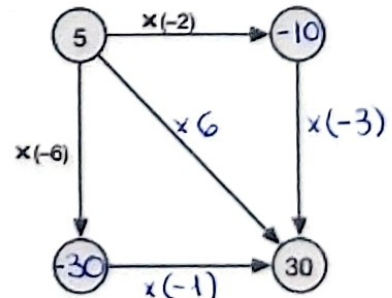
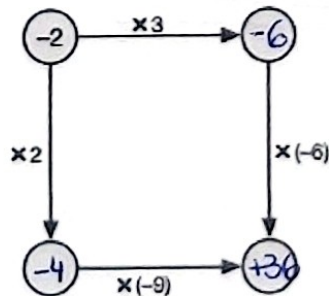
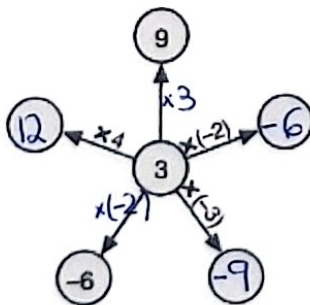
a) 
$$\frac{\frac{1}{4} - \frac{5}{2} \times \frac{2}{3}}{\frac{3}{4} + \frac{1}{6} \times \frac{5}{3} - \frac{1}{2}}$$

c) 
$$\frac{\left(\frac{10}{3} - \frac{5}{6}\right) - \frac{1}{42} \times \frac{9}{7}}{\left(\frac{4}{5} - \frac{14}{3} \times \frac{1}{14}\right) + \frac{5}{15}}$$

b) 
$$\frac{\left(\frac{3}{5} - \frac{2}{8}\right) \times \frac{1}{12} + 7}{\frac{5}{3} + \frac{2}{4} \times \frac{8}{9} : \frac{3}{4}}$$

d) 
$$\frac{\left(\frac{1}{4} + \frac{5}{2}\right) \times \frac{1}{11} + \frac{2}{4} : \frac{11}{5}}{\left(\frac{10}{2} + \frac{21}{26} - \frac{3}{13}\right) \times \frac{1}{2} - \frac{2}{15}}$$

2. Escriu els nombres que faltens als cercles i a les fletxes dels següents diagrames:



3. Cada lletra té un valor numèric que és resultat de l'operació que es troba a la part inferior. Troba el valor d'aquestes lletres i respon al missatge ocult que es troba al final d'aquesta pàgina.

**A**  
 $-2 + (-2) + 2 - 4$   
 $-2 - 2 + 2 - 4 = -6$

**E**  
 $-2 - 7 - [3 - (-1)]$   
 $-2 - 7 - (3 + 1) = -2 - 7 - 4 = -13$

**I**  
 $-2 \times 5$   
 $-10$

**M**  
 $-12 \times 3 \times (-4)$   
 $144$

**Q**  
 $|(-27)| : (-3) - 9$   
**!! pense valeur absolue !!**

**U**  
 $|(-32)| : |(-4)| : |(-2)|$   
 $32 : 4 : (-2) = 8 : (-2)$   
 $= -4$

**B**  
 $-5 - (-4) + 8$   
 $-5 + 4 + 8 = +7$

**F**  
 $5 - [8 + (-6) - (9)]$   
 $5 - (8 - 6 - 9) = 5 - (-7) = 5 + 7 = 12$

**J**  
 $-6 \times (-8)$   
 $+ 48$

**N**  
 $-300 : 10$   
 $-30$

**R**  
 $-|(-1)| \times (-3) \times |6|$   
 $18$

**V**  
 M.C.D.  $(3, 9) \times (-8)$   
 $3(-8) = -24$

**C**  
 $(1) + (-2) - (1)$   
 $1 - 2 - 1 = -2$

**G**  
 $-[-(2-7) - (3+(-1))]$   
 $-[-(-5) - (-2)] = -[+5-2] = -3$

**K**  
 $-9 \times (-3) \times 2$   
 $+ 54$

**O**  
 $-12 : (-3) : 2$   
 $2$

**S**  
 $|(-75)| : (-5)$   
 $-15$

**X**  
 m.c.m.  $(5, 15) \times (-4)$   
 $15 \cdot (-4) = -60$

**D**  
 $36 - [5 - (-6)]$   
 $36 - (5 + 6) = 36 - 11 = +25$

**H**  
 $3 - [2 - (-5) + 6] + 3$   
 $3 - [2 + 5 + 6] + 3 = 3 - 13 + 3 = -7$

**L**  
 $-4 \times (-7) \times (-3)$   
 $-84$

**P**  
 $-10 : (-5) : (-2) = 2$

**T**  
 $|(-28)| : |(-7)| = 4$

**Y**  
 El nombre més gran de 13 i 14

**Z**  
 El nombre més petit de  $-2, 3, -5$  i  $0$

**Q**  
U I N N M B R E E N T E R E S  
 (9) (-4) (-10) (-30) (-30) **2** (144) (7) (18) (-13) (-13) (-30) (4) (-13) (18) (-13) (-15)

**I** **G** **U** **A** **L** **A** **L** **S** **E** **U** **O** **P** **O** **S** **A** **T** ?  
 (-10) (-3) (-4) (-6) (-84) (-6) (-84) (-15) (-13) (-4) (2) (-1) (2) (-15) (-6) (4)

el zero

## Operacions matemàtiques

$$\begin{aligned}
 1) \quad a) \quad & \frac{1}{4} - \frac{5}{2} \cdot \frac{2}{3} & \frac{1}{4} - \frac{5}{3} & \frac{3}{12} - \frac{20}{12} & \frac{-17}{12} \\
 & \frac{3}{4} + \frac{1}{6} \cdot \frac{5}{3} - \frac{1}{2} & \frac{3}{4} + \frac{5}{18} - \frac{1}{2} & \frac{27}{36} + \frac{10}{36} - \frac{18}{36} & \frac{19}{36} \\
 = & \frac{-17}{12} \cdot \frac{19}{36} = \frac{-17}{12} \cdot \frac{36}{19} = \frac{-612}{228} = \frac{-306}{114} = \frac{-153}{57} = \boxed{\frac{-51}{19}}
 \end{aligned}$$

$$\begin{aligned}
 b) \quad & \left(\frac{3}{5} - \frac{2}{8}\right) \cdot \frac{1}{12} + 7 & \left(\frac{24}{40} - \frac{10}{40}\right) \cdot \frac{1}{12} + 7 & \frac{14}{40} \cdot \frac{1}{12} + 7 & \frac{14}{480} + 7 \\
 & \frac{5}{3} + \frac{2}{4} \cdot \frac{8}{9} \cdot \frac{3}{4} & \frac{5}{3} + \frac{16}{36} \cdot \frac{4}{3} & \frac{5}{3} + \frac{64}{108} & \frac{180}{108} + \frac{64}{108} \\
 = & \frac{14}{480} + \frac{3360}{480} = \frac{3374}{480} & \frac{3374}{480} \cdot \frac{244}{108} = \frac{3374 \cdot 108}{480 \cdot 244} = \frac{364392}{117120} \\
 = & \frac{182196}{58560} = \frac{91098}{29280} = \frac{45549}{14640} = \boxed{\frac{15183}{4880}}
 \end{aligned}$$

$$\begin{aligned}
 c) \quad & \left(\frac{10}{3} - \frac{5}{6}\right) - \frac{1}{42} \cdot \frac{9}{7} & \left(\frac{20}{6} - \frac{5}{6}\right) - \frac{9}{294} & \frac{15}{6} - \frac{9}{294} \\
 & \left(\frac{4}{5} - \frac{11}{3} \cdot \frac{1}{14}\right) + \frac{5}{15} & \left(\frac{4}{5} - \frac{1}{3}\right) + \frac{5}{15} & \left(\frac{12}{15} - \frac{5}{15}\right) + \frac{5}{15} \\
 = & \frac{735}{294} - \frac{9}{294} = \frac{726}{294} & \frac{726}{294} \cdot \frac{12}{15} = \frac{726}{294} \cdot \frac{15}{12} = \frac{10890}{3528} = \frac{5445}{1764} \\
 = & \frac{1815}{588} = \boxed{\frac{605}{196}}
 \end{aligned}$$

$$d) \frac{\left(\frac{1}{4} + \frac{5}{2}\right) \cdot \frac{1}{11} + \frac{2}{4} \cdot \frac{11}{5}}{\left(\frac{10}{2} + \frac{21}{26} - \frac{3}{13}\right) \cdot \frac{1}{2} - \frac{2}{15}} = \frac{\left(\frac{1}{4} + \frac{10}{4}\right) \cdot \frac{1}{11} + \frac{2}{4} \cdot \frac{5}{11}}{\left(\frac{130}{26} + \frac{21}{26} - \frac{6}{26}\right) \cdot \frac{1}{2} - \frac{2}{15}} = \frac{\frac{11}{4} \cdot \frac{1}{11} + \frac{10}{44}}{\frac{145}{26} \cdot \frac{1}{2} - \frac{2}{15}} =$$

$$= \frac{\frac{11}{44} + \frac{10}{44}}{\frac{145}{52} - \frac{2}{15}} = \frac{\frac{21}{44}}{\frac{2175}{780} - \frac{104}{780}} = \frac{\frac{21}{44}}{\frac{2071}{780}} = \frac{21}{44} \cdot \frac{780}{2071} =$$

$$= \frac{21}{44} \cdot \frac{780}{2071} = \frac{16380}{91124} = \frac{8190}{45562} = \frac{4095}{22781}$$