



اذا كان $a \times b = 1$
 عددين مقلوبين
 متكوبان
 $a \times b = 1$

$$A = \left(\frac{-2023}{2024} \right) \times \left(\frac{-2024}{2023} \right) = \frac{\cancel{2023}}{\cancel{2024}} \times \frac{\cancel{2024}}{\cancel{2023}} = 1$$

$$B = \frac{31}{131} \times \left(\frac{-91}{191} \right) + \frac{31}{131} \times \left(\frac{-100}{191} \right) =$$

$$= \frac{31}{131} \times \left(\frac{-91}{191} + \frac{-100}{191} \right)$$

$$= \frac{31}{131} \times \left(\frac{-191}{191} \right) = \frac{31}{131} \times (-1) = -\frac{31}{131}$$

$$C = \frac{45}{19} \times \left(\frac{13}{15} - \frac{7}{9} \right) = \frac{45}{19} \times \frac{13}{15} - \frac{45}{19} \times \frac{7}{9}$$

$$= \frac{\cancel{45} \times 13}{19 \times \cancel{15}} - \frac{\cancel{45} \times 7}{19 \times \cancel{9}}$$

$$= \frac{39}{19} - \frac{35}{19} = \frac{39-35}{19} = \frac{4}{19}$$

$$D = 5 \times \frac{2}{4} - \frac{1}{6} = \frac{5}{1} \times \frac{2}{2} \times \frac{1}{4} - \frac{5}{6}$$

$$= \frac{10}{12} - \frac{5 \times 2}{6 \times 2} = \frac{10}{12} - \frac{10}{12} = 0$$

$$H = \frac{\frac{5 \times 3}{5 \times 7} - \frac{1 \times 7}{5 \times 3}}{\frac{3}{7} \times \frac{2}{5} - \frac{1}{5} \times \frac{2}{9}}$$

$$\frac{\frac{15}{35} - \frac{7}{35}}{\frac{6}{35} - \frac{2 \times 7}{5 \times 7}}$$

$$= \frac{\frac{8}{35}}{\frac{6}{35} - \frac{14}{35}} = \frac{\frac{8}{35}}{\frac{-8}{35}}$$

$$= \frac{8}{35} \times -\frac{35}{8}$$

$$= -\frac{8}{8}$$

$$\frac{1}{\frac{a}{b}} = \frac{b}{a}$$



تمرین عدد:



نعتبر عبارتین: $E = a(\frac{4}{3} - b) - \frac{2}{5}$ و $F = b(\frac{4}{3} - a) + \frac{3}{5}$ حيث a و b عدنان كسريان

(1) بين أن: $E = \frac{4}{3}a - \frac{7}{5}$

$$E = a(\frac{4}{3} - b) - \frac{2}{5} = \frac{4}{3}a - \frac{a \times b}{1} - \frac{2}{5} = \frac{4}{3}a - 1 - \frac{2}{5} = \frac{4}{3}a - \frac{5}{5} - \frac{2}{5} = \frac{4}{3}a - \frac{7}{5}$$

(ب) بين أن: $F = \frac{4}{3}b - \frac{2}{5}$

$$F = b(\frac{4}{3} - a) + \frac{3}{5} = \frac{4}{3}b - \frac{b \times a}{1} + \frac{3}{5} = \frac{4}{3}b - 1 + \frac{3}{5} = \frac{4}{3}b - \frac{5}{5} + \frac{3}{5} = \frac{4}{3}b - \frac{2}{5}$$

(2) قارن E و F باستعمال الفرق إذا علمت أن $a - b = \frac{3}{5}$

$$E - F = \frac{4}{3}a - \frac{7}{5} - (\frac{4}{3}b - \frac{2}{5})$$

$$= \frac{4}{3}a - \frac{7}{5} - \frac{4}{3}b + \frac{2}{5} = \frac{4}{3}a - \frac{4}{3}b - \frac{5}{5}$$

$$= \frac{4}{3} \times (a - b) - 1$$

$$= \frac{4}{3} \times (\frac{3}{5}) - 1$$

$$= \frac{4}{5} - 1$$

$$= \frac{4}{5} - \frac{5}{5}$$

$$= -\frac{1}{5} < 0$$

$$E < F$$

دائن

$$E - F < 0$$



تمارين عد 1 دد: (4 نقاط)



- ضع علامة (x) أمام الإجابة الوحيدة الصحيحة



(1) كل مثلث متقايس الضلعين له زاوية قياسها 60° هو مثلث:

- (أ) قائم ☐ (ب) له زاوية منفرجة ☐ (ج) متقايس الأضلاع ☒

(2) مقلوب العدد: $(-1,25)$ هو: (أ) $1,25$ ☐ (ب) $(-\frac{5}{4})$ ☒ (ج) $(-0,8)$ ☐

(3) ليكن: $\frac{a}{b} \in Q^+$ و $\frac{c}{d} \in Q^-$ فإن: $\frac{c}{d} \times \frac{a}{b} \times (-\frac{c}{d}) \times (-\frac{a}{b})$ هو عدد كسري:

- (أ) سالب ☐ (ب) يساوي صفر ☐ (ج) موجب ☒

(4) $(-\frac{2}{3}) \times (-\frac{2}{3}) + \frac{2}{3}$ يساوي: (أ) 0 ☒ (ب) $-\frac{5}{3}$ ☐ (ج) $\frac{5}{3}$ ☐

$$-\frac{125}{100}$$

$$-\frac{100 \cdot 25}{125 \cdot 100}$$

$$= -\frac{4}{5}$$

$$= \frac{4}{9} + \frac{2 \times 3}{3 \times 3}$$

$$= \frac{4}{9} + \frac{6}{9} = \frac{10}{9}$$





(1) أحسب

$$A = \left(1 - \frac{1}{30}\right) \left(1 - \frac{2}{30}\right) \left(1 - \frac{3}{30}\right) \dots \left(1 - \frac{50}{30}\right)$$

$$B = \frac{-3}{10} - \frac{3}{2} \times \left(\frac{-2}{3}\right)$$

(2) أوجد العدد الكسري x في الحالتين

$$4 - \frac{5}{x} = -3$$

$$\left|x - \frac{3}{2}\right| + \frac{2}{5} = \frac{3}{2}$$

$$\begin{aligned} A &= \left(1 - \frac{1}{30}\right) \times \left(1 - \frac{2}{30}\right) \times \left(1 - \frac{3}{30}\right) \times \left(1 - \frac{4}{30}\right) \times \left(1 - \frac{5}{30}\right) \times \dots \times \left(1 - \frac{50}{30}\right) \\ &= \left(1 - \frac{1}{30}\right) \times \left(1 - \frac{2}{30}\right) \times \dots \times \left(1 - \frac{29}{30}\right) \times \left(1 - \frac{30}{30}\right) \times \left(1 - \frac{31}{30}\right) \times \dots \times \left(1 - \frac{50}{30}\right) \\ &\quad \underbrace{\left(1 - \frac{30}{30}\right)}_0 \\ A &= 0 \end{aligned}$$

$$\begin{aligned} D &= \left(1 - \frac{1}{10}\right) \left(1 - \frac{2}{10}\right) \left(1 - \frac{3}{10}\right) \times \dots \times \left(1 - \frac{15}{10}\right) \\ &= \left(1 - \frac{1}{10}\right) \times \left(1 - \frac{2}{10}\right) \times \dots \times \left(1 - \frac{10}{10}\right) \times \left(1 - \frac{11}{10}\right) \times \dots \times \left(1 - \frac{15}{10}\right) \\ &\quad \underbrace{\left(1 - \frac{10}{10}\right)}_0 \\ D &= 0 \end{aligned}$$

(2) أوجد العدد الكسري x في الحالتين

$$B = \frac{-3}{10} - \frac{3}{2} \times \left(\frac{-2}{3}\right)$$

$$\begin{aligned} &= -\frac{3}{10} + \frac{3}{2} \times \frac{2}{3} \\ &= -\frac{3}{10} + 1 \\ &= -\frac{3}{10} + \frac{10}{10} \\ &= \frac{7}{10} \end{aligned}$$

$$4 - \frac{5}{x} = -3$$

$$\begin{aligned} 4 - \frac{5}{x} &= -3 \\ -\frac{5}{x} &= -3 - 4 \\ -\frac{5}{x} &= -7 \\ \frac{5}{x} &= 7 \end{aligned}$$

$$(-1) \times x = -5 \times 1$$

$$-x = -5$$

$$x = 5$$

$$\left|x - \frac{3}{2}\right| + \frac{2}{5} = \frac{3}{2}$$

$$\left|x - \frac{3}{2}\right| = \frac{3}{2} - \frac{2}{5}$$

$$\left|x - \frac{3}{2}\right| = \frac{15}{10} - \frac{4}{10}$$

$$\left|x - \frac{3}{2}\right| = \frac{11}{10}$$

$$x - \frac{3}{2} = \frac{11}{10} \quad \text{أو} \quad x - \frac{3}{2} = -\frac{11}{10}$$

$$x = \frac{11}{10} + \frac{3}{2} \quad \text{أو} \quad x = -\frac{11}{10} + \frac{3}{2}$$

$$x = \frac{26}{10} \quad \text{أو} \quad x = \frac{4}{10}$$

