

ممارين في الأعداد النسبية للسنة الثالثة متوسط

1 أحسب ما يلي :

$$\begin{array}{lll} (-15) \times 6 & 4 \times (-16) & (-7) \times (+8) \\ 3 \times (-100) & -3 \times (+8) & (-5) \times (-9) \end{array}$$

2 أحسب ما يلي :

$$\begin{array}{lll} 18 + (-2) & (+12) + (-4) & (-20) + (-5) \\ \frac{-7}{7} & \frac{10}{-2} & \frac{-6}{-3} \\ -\frac{-1}{-2} & -\frac{8}{-2} & -\frac{-24}{3} \end{array}$$

3 إربط بين النتائج المتساوية :

$$\begin{array}{ll} (-1) \times (+1) & -12 + (-10) \\ (-3) + (30) & (-1) + (+1) \\ (-0,1) \times (-12) & (+2) + (-0,2) \end{array}$$

4 أحسب ما يلي :

$$\begin{array}{l} A = (-2) \times (-5) \times (-3) \times (-4) \times (-1) \\ B = (+3) \times (-2) \times (+9) \times (-3) \times (+7) \\ C = -10 \times (-3) \times 4 \times (-11) \times 8 \\ D = -9 \times 2 \times 4 \times (-5) \times (3) \times 2 \end{array}$$

5 أحسب ما يلي :

$$\begin{array}{l} A = -72 \div (3 \times (-3)) \\ B = -8 \times 4 - 10 \div (5 - 27 \div 9) \\ C = \frac{(4 - 22) + (-1,5 \times 2) + 8}{-2 \times 3 - 8} \\ D = [(-7 + 11) \times (-3) + 4] \div 2 + 1 \\ E = \frac{-9 + 2 \times (-1 + 10) + 13}{21 + (-7) + 2 \times (-4)} \end{array}$$

6 نضع : $x = -5$ ، $y = 4$ ، $z = -2,5$

أحسب العبارات التالية :

$$\frac{y - z}{x - 1,5} \quad x y z \quad x + y + z$$

7 أتر كلا من العبارات التالية ثم أحسب الناتج :

$$\begin{array}{ll} a = (-3) \times (-6 + 4) & b = (-5) \times (-1 - 2) \\ c = 2 \times (-8 + 3) & d = (-4) \times (2 - 4 + 5) \\ e = (-1) \times (5 - 7 + 2 - 10) & f = (-10) \times (-2 + 8 + 3 - 4) \end{array}$$

إعادة إستثمار

8 أحسب ما يلي :

$$\begin{array}{lll} -15 \times 8 & -6 \times (-1) & 50 \times (-0,5) \\ -7 \times (-8) & (-2) \times (+0,5) & (-12) \times (-12) \end{array}$$

9 أحسب ما يلي :

$$-\frac{8}{-2} \quad -24 \div (-3) \quad \frac{12}{-3} \quad \frac{-75}{-25}$$

10 أحسب ما يلي :

$$\begin{array}{l} A = (-10) \times (+2) \times (-3) \times (+5) \times (-2) \\ B = (-11)(4)(+13)(-2)(+3) \\ C = -1 \times (-2) \times 25 \times (-9) \times 7 \\ D = -20 \times (-2) \times 4 \times (-6) \times (-12) \times (-2) \end{array}$$

11 أحسب ما يلي :

$$\begin{array}{l} 1) (-44) \div (+8) \times (-2) \\ 2) (-1) \div (+12) \times (-0,5) + (+10) \\ 3) [(-725) + (+539) + 186] \div [2008 \div (-19) \times 11] \\ 4) \frac{(-3) + (-6) \times (-3)}{2 \times (-2,5)} \\ 5) \frac{(-14) \times (-2)}{6 - 18 \div (-9)} \end{array}$$

12 إليك العبارتين E و F :

$$E = \frac{(-5 + 9)}{10 - (2 + 6 \times 4)} \quad F = -11 \div [48 \div (-5 - 7)]$$

1. أحسب العبارتين E و F .

2. قارن بين E و F .

13 أحسب كلا ما يلي بطريقتين :

$$\begin{array}{lll} (-1)(-7-6) & 10 \times (9-11) & (-4) \times (-8+5) \\ (5-6+4) \times 7 & (-6+4-1)(-3) & (-12+8)(-2) \end{array}$$

حل تمارين الأعداد النسبية للسنة الثالثة متوسطة

• التمرين 04 :

$$A = (-2) \times (-5) \times (-3) \times (-4) \times (-1) \\ = -120.$$

$$B = (+3) \times (-2) \times (+9) \times (-3) \times (+7) \\ = +1134.$$

$$C = -10 \times (-3) \times 4 \times (-11) \times 8 \\ = -10560.$$

$$D = -9 \times 2 \times 4 \times (-5) \times (3) \times 2 \\ = +2160.$$

• التمرين 05 :

$$A = -72 \div (3 \times (-3)) \\ = -72 \div (-9) \\ = +8.$$

$$B = -8 \times 4 - 10 \div (5 - 27 \div 9)$$

$$B = -8 \times 4 - 10 \div (5 - 3) \\ = -8 \times 4 - 10 \div 2 \\ = -32 - 10 \div 2 \\ = -32 - 5 \\ = -37.$$

$$C = \frac{(4 - 22) \div (-1 \times 2) + 8}{-2 \times 3 - 8}$$

$$C = \frac{(-18) \div (-2) + 8}{-6 - 8} \\ = \frac{+9 + 8}{-14}$$

$$= \frac{+17}{-14}$$

$$= -1.$$

• التمرين 01 :

$$(-7) \times (+8) = -56.$$

$$4 \times (-16) = -64.$$

$$(-15) \times 6 = -90$$

$$(-5) \times (-9) = +45$$

$$-3 \times (+8) = -24$$

$$3 \times (-100) = -300$$

• التمرين 02 :

$$(-20) \div (-5) = +4.$$

$$(+12) \div (-4) = -3$$

$$18 \div (-2) = -9$$

$$\frac{-6}{-3} = 2$$

$$\frac{10}{-2} = -5$$

$$\frac{-7}{7} = -1$$

$$-\frac{-24}{3} = -(-8) = +8.$$

$$-\frac{8}{-2} = -(-4) = 4.$$

$$-\frac{-1}{2} = -(+0,5) = -0,5$$

• التمرين 03 :

$$\begin{array}{l} -12 \div (-10) \\ (-1) \div (+1) \\ (+2) \div (-0,2) \end{array} \quad \begin{array}{l} (-1) \times (+1) \\ (30) \div (-3) \\ (-12) \times (-0,1) \end{array}$$

$$\begin{aligned}\frac{y-z}{m-1,5} &= \frac{4-(-2,5)}{(-5)-1,5} \\ &= \frac{4+2,5}{-5-1,5} \\ &= \frac{6,5}{-6,5} \\ &= -1.\end{aligned}$$

• التمرين 07 :

$$\begin{aligned}a &= (-3) \times (-6+4) \\ &= +3 \times 6 - 3 \times 4 \\ &= 18 - 12 \\ &= 6.\end{aligned}$$

$$\begin{aligned}b &= (-5) \times (-1-2) \\ &= +5 \times 1 + 5 \times 2 \\ &= 5 + 10 \\ &= 15.\end{aligned}$$

$$\begin{aligned}c &= 2 \times (-8+3) \\ &= -2 \times 8 + 2 \times 3 \\ &= -16 + 6 \\ &= -10\end{aligned}$$

$$\begin{aligned}d &= (-4) \times (2-4+5) \\ &= -4 \times 2 + 4 \times 4 - 4 \times 5 \\ &= -8 + 16 - 20 \\ &= -8 - 20 + 16 \\ &= -28 + 16 \\ &= -12.\end{aligned}$$

$$\begin{aligned}\Delta &= [(-7+11) \times (-3) + 4] \div 2 + 1 \\ &= [(1+4) \times (-3) + 4] \div 2 + 1 \\ &= [(-12) + 4] \div 2 + 1 \\ &= (-8) \div 2 + 1 \\ &= -4 + 1 \\ &= -3.\end{aligned}$$

$$E = \frac{-9 + 2 \times (-1+10) + 13}{21 \div (-7) + 2 \times (-4)}$$

$$\begin{aligned}E &= \frac{-9 + 2 \times (+9) + 13}{(-3) + 2 \times (-4)} \\ &= \frac{-9 + 18 + 13}{(-3) + (-8)} \\ &= \frac{-9 + 31}{(-11)} \\ &= \frac{22}{-11} \\ &= -2.\end{aligned}$$

• التمرين 06 :

$$\begin{aligned}m+y+z &= (-5) + 4 + (-2,5) \\ &= -5 + 4 - 2,5 \\ &= -5 - 2,5 + 4 \\ &= -7,5 + 4 \\ &= -3,5.\end{aligned}$$

$$\begin{aligned}m \times y \times z &= (-5) \times (4) \times (-2,5) \\ &= +50.\end{aligned}$$

• التمرين 09 :

$$\frac{-75 \div 25}{-25 \div 25}$$

$$= \frac{3}{1}$$

$$= 3.$$

$$\frac{12}{-3}$$

$$= -4.$$

$$-24 \div (-3)$$

$$= 8.$$

$$\frac{-6}{-2}$$

$$= 3.$$

• التمرين 10 :

$$A = (-10) \times (+2) \times (-3) \times (+5) \times (-2)$$

$$= -600.$$

$$B = (-11) \times (4) \times (+13) \times (-2) \times (+3)$$

$$= 3432.$$

$$C = -1 \times (-2) \times 25 \times (-9) \times 7$$

$$= -3150.$$

$$D = -20 \times (-2) \times 4 \times (-6) \times (-12) \times (-2)$$

$$= -23040.$$

• التمرين 11 :

$$1) (-44) \div (+8) \times (-2)$$

$$= (-5,5) \times (-2)$$

$$= 11.$$

$$2) (-1) - (+12) \times (-0,5) \div (+10)$$

$$= (-1) - (12) \div (+10)$$

$$= (-1) - (1,2)$$

$$= -1 - 1,2$$

$$= -2,2.$$

$$E = (-1) \times (5 - 7 + 2 - 10)$$

$$= -5 + 7 - 2 + 10$$

$$= -5 - 2 + 7 + 10$$

$$= -7 + 17$$

$$= 10.$$

$$F = (-10) \times (-2 + 8 + 3 - 4)$$

$$= +10 \times 2 - 10 \times 8 - 10 \times 3 + 10 \times 4$$

$$= 20 - 80 - 30 + 40$$

$$= 20 + 40 - 80 - 30$$

$$= 60 - 110$$

$$= -50.$$

• إعادة الاستثمار

• التمرين 08 :

$$50 \times (-0,5)$$

$$= -25.$$

$$-6 \times (-1)$$

$$= +6.$$

$$-15 \times 8$$

$$= -120.$$

$$(-12) \times (-12)$$

$$= 144.$$

$$(-2) \times (+0,5)$$

$$= -1.$$

$$-7 \times (-8)$$

$$= 56.$$

$$\begin{aligned}
 F &= -11 + [48 \div (-5 - 7)] \\
 &= -11 + [48 \div (-12)] \\
 &= -11 + (-4) \\
 &= -15.
 \end{aligned}$$

١٤ المقارنة بين E و F:

$$-15 < -0,25$$

ومن ثم: $F < E$

• التمرين 13:

$$(-4) \times (-8 + 5)$$

$$(-4) \times (-3)$$

$$= 12.$$

$$10 \times (9 - 11)$$

$$= 10 \times (-2)$$

$$= -20$$

$$(-1)(-7-6)$$

$$= (-1)(-13)$$

$$= 13.$$

$$(-12 + 8)(-2)$$

$$= (-4)(-2)$$

$$= 8.$$

$$(-6 + 4 - 1)(-3)$$

$$= (-6 - 1 + 4)(-3)$$

$$= (-7 + 4)(-3)$$

$$= (-3)(-3)$$

$$= 9.$$

$$(5 - 6 + 4) \times 7$$

$$= (5 + 4 - 6) \times 7$$

$$= (9 - 6) \times 7$$

$$= 3 \times 7 = 21.$$

$$\begin{aligned}
 3) & [(-72) + 4(39) + 186] \div [2008 + 19 \times 11] \\
 &= [-72 + (39 + 186)] \div [2008 - 19 \times 11] \\
 &= (-72 + 225) \div (2008 - 209) \\
 &= 0 \div 1799 \\
 &= 0.
 \end{aligned}$$

$$4) \frac{(-3) + (-6) \times (-3)}{2 \times (-2,5)}$$

$$= \frac{(-3) + (+18)}{(-5)}$$

$$= \frac{15}{-5}$$

$$= -3.$$

$$c) \frac{(-14) \times (-2)}{6 - 18 + (-9)}$$

$$= \frac{28}{6 + 2}$$

$$= \frac{28}{8}$$

$$= 3,5$$

• التمرين 14:

١٤ حساب العبارتين E و F:

$$E = \frac{(-5 + 9)}{10 - (2 + 6 \times 4)}$$

$$E = \frac{4}{10 - (2 + 24)}$$

$$= \frac{4}{10 - 26}$$

$$= \frac{4 \div 4}{-16 \div 4}$$

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

$$= -0,25.$$