

(1)

(1)

$$\textcircled{1} \frac{a(b+c)}{m(b+c)} = \frac{a}{m}$$

$$\textcircled{2} \frac{ab(\cancel{c})}{m^r(\cancel{c} \cdot 1)} = \frac{ab}{m^r} \quad \textcircled{1}$$

$$\textcircled{3} \frac{\cancel{a}(b-c)}{\cancel{a}(b+c)} = \frac{b-c}{b+c}$$

$$\textcircled{4} \frac{x(\cancel{x-1})}{y(\cancel{x-1})} = \frac{x}{y}$$

$$\textcircled{5} \frac{y(\cancel{y+1})}{a(\cancel{y+1})} = \frac{y}{a}$$

$$\textcircled{6} \frac{x^r(\cancel{x-1})}{b(\cancel{x-1})} = \frac{x^r}{b}$$

$$\textcircled{1} (-3x+4)(2x+3) = -6x^2 - 9x + 8x + 12 = \boxed{-6x^2 - x + 12} \quad \textcircled{1}$$

$$\textcircled{2} (2x-1)(-3-5x) = -9x - 10x^2 + 3 + 15x = \boxed{-10x^2 + 6x + 3}$$

$$\textcircled{3} (-2x-4)(-5x-1) = 10x^2 + 2x + 20x + 4 = \boxed{10x^2 + 22x + 4}$$

$$\textcircled{4} (2x+1)(2x+1) = 4x^2 + 2x + 2x + 1 = \boxed{4x^2 + 4x + 1}$$

$$\textcircled{5} (2x+3)(-3x-2) = -6x^2 - 4x - 9x - 6 = \boxed{-6x^2 - 13x - 6}$$

$$\textcircled{6} (2x-1)(2x-1) = 4x^2 - 2x - 2x + 1 = \boxed{4x^2 - 4x + 1}$$

$$\textcircled{7} (2a-3b)(2a-3b) = 4a^2 - 6ab - 6ab + 9b^2 = \boxed{4a^2 - 12ab + 9b^2}$$

$$\textcircled{8} a^r x^r - 2a^r x^r + x^r - 4a^r x^r = \boxed{x^r - 5a^r x^r}$$

$$\textcircled{9} 9x^r - 5x - 9x^r - 5 = \boxed{9x^r - 5x - 5}$$

$$\textcircled{10} \cancel{a} \left(\frac{r}{a} - \frac{r}{a} b \right) = 1 \cdot a - rb \quad \rightarrow \quad \cancel{a} x \frac{r}{a} = r$$

$$\textcircled{11} -5x(-2x) - 3x^r = +10x^2 - 3x^r = \boxed{10x^2 - 3x^r}$$

$$\textcircled{12} (5x+4y)(2y+3x) = 10xy + 6x^2 + 8y^2 + 12xy = \boxed{6x^2 + 18xy + 8y^2}$$

$$\textcircled{13} (2a-3b)(2a+5b) = 4a^2 + 10ab - 6ab - 15b^2 = \boxed{4a^2 + 4ab - 15b^2}$$

$$\textcircled{14} (2a-3b)(2a+3b) = 4a^2 + 6ab - 6ab - 9b^2 = \boxed{4a^2 - 9b^2}$$

مسئله

ادامه! شیخ کا رجب 1

$$(15) (-2m - 3n)(-3m - 2n) = 6m^2 + \underline{6mn} + \underline{6nm} + 6n^2 = 6m^2 + 12mn + 6n^2 \quad \text{P112}$$

$$(16) (4x + 3y)(7y + 9x) = \underline{63xy} + \underline{36x^2} + \underline{21y^2} + \underline{27xy} = \underline{63x^2 + 21y^2 + 27xy}$$

$$(17) \underline{6x^2} - 3ax - \underline{4x^2} + \underline{10x^2} = \underline{2x^2} - 3ax$$

$$(18) \underline{4xy} + 3x - \underline{5xy} = \underline{3x + xy}$$

$$(19) 2(5n - b) + 5n = \underline{10n} - 2b + 5n = \underline{15n - 2b}$$

$$(20) 2x(3x + 5y) - 2y(5x + 3y) = \underline{6x^2} + \underline{10xy} - \underline{10xy} - \underline{6y^2} = \underline{6x^2 - 6y^2}$$

$$(21) \underline{8x^2} - \underline{10y} + 2(\underline{3x^2} + 5y) = \underline{8x^2} - \underline{10y} + \underline{6x^2} + \underline{10y} = \underline{14x^2 - 0y}$$

الف) $\overline{fgh} = h + 10g + 100f$

سوال 3

ب) $\overline{ef} = f + 10e$

(هـ)

(ب) استخراج (۲)

سوال ۱

$$\text{الف) } \frac{x^3 y^3 (y^2 + x^2)}{xy (x^2 + y^2)} = x^2 y^2$$

$$\text{ب) } \frac{m^2 q^4 - m^3 q^3}{m^2 q^2 - m q^3} = \frac{m^2 q^3 (q - m)}{m q^2 (m - q)} = \frac{q - m}{m - q} = -1$$

* جمله هم علامت q و هم علامت m در صورت
و منجمت قرین است بنابراین
مخالف این تقسیم
-1 می شود
(برای علامت منم)

سوال ۲

$$\text{الف) } (3a - d)(3a - d) = 9a^2 - 3ad - 3ad + d^2 = 9a^2 - 6ad + d^2$$

$$\text{ب) } (2a + d)(2a + d) = 4a^2 + 2ad + 2ad + d^2 = 4a^2 + 4ad + d^2$$

$$\text{ج) } (x - 2d)(x - 2d) = x^2 - 2xd - 2xd + 4d^2 = x^2 - 4xd + 4d^2$$

$$\text{د) } (5x - 4y)(5x - 4y) = 25x^2 - 10xy - 10xy + 16y^2 = 25x^2 - 20xy + 16y^2$$

$$\text{ه) } (x + 3)(x^2 - 3x + 9) = x^3 - 3x^2 + 9x + 3x^2 - 9x + 27 = x^3 + 27$$

$$\text{و) } (x - 3)(x^2 + 3x + 9) = x^3 + 3x^2 + 9x - 3x^2 - 9x - 27 = x^3 - 27$$

سوال ۳

$$\text{① } 5xy(x + 4y)$$

$$\text{① } b^2(-1 + 5b)$$

$$\text{② } 5am(1 + 2a + 3m^2)$$

$$\text{② } x^2(-1 - 5x^2)$$

$$\text{③ } 4xy^2(1 - xy^2)$$

$$\text{③ } a^2(-a + 2)$$

$$\text{④ } 5by(b + 2y - 3by)$$

$$\text{④ } 9^y(b - c)$$

$$\text{⑤ } x^2(-x - 1)$$

$$\text{⑤ } 4xy(3xy + 4x^2y^2 + 1)$$

$$\text{⑥ } a(a - 4b)$$

$$\text{⑥ } 9z^2y(1 - 10y^2)$$

$$\text{⑦ } 3^x\left(\frac{m}{n} - \frac{p}{q}\right)$$

$$\text{⑦ } y(-1x - 11y)$$

(۵-۳)

(با استفاده از جدول شماره ۳)

سوال ۱

① $\cancel{2x}(\omega) + 1 = 0 + 1 = 1$

② $(3)^3 - (-3)^2 = 27 - (9) = 18$

③ $\cancel{2(-1)}(\cancel{-1})^{\omega} - (\cancel{-1})^2 = 2 - 1 = 1$

(توان اولویت بالاتری دارد)

$2x - 1x - 1 = +2$

④ $(-2)^2 + (-2) \times 0 = 4 + 0 = 4$

⑤ $(-3)^2 - (2)^2 = 9 - 4 = 5$

⑥ $\frac{-2 \times \cancel{(-2)}(\omega)}{+2} - \frac{(\cancel{-2})^2}{9} = +2 - 1 = 1$

⑦ $\cancel{-3}(\cancel{1})^2 + 1 = -3 + 1 = -2$

⑧ $\frac{-(-2)^2}{1} = \frac{-4}{1} = -4$

⑨ $(\cancel{2})^{\omega} = 2^{\omega} = 32$

⑩ $\frac{(2x - 1x - 1) - (\cancel{-1})^2}{-1 - 1} = \frac{+2 - 1}{-2} = \frac{1}{-2}$

⑪ $\frac{2(\cancel{-2})^2 \times -3 - (-\omega)}{-2x - 3 - 3x - \omega} = \frac{12x - 3 + \omega}{4 + \omega} = \frac{-24 + \omega}{41} = \frac{-19}{41}$

⑫ $\sqrt{\cancel{3}(\cancel{1}) \cancel{(\cancel{2})}(\cancel{3})} = \sqrt{3 \times 2 \times 1 \times 0} = 0$

(ادامہ یا شیخ کا رنگ ۳)

$$\textcircled{13} \quad -2(1)(-3) - (\cancel{2})^3 - 4 =$$

$$+ 4 - 8 - 4 = \boxed{-4}$$

$\textcircled{14}$

$$(-\omega)(\cancel{0}) - (-\omega)^2 + V = 0 - (2\omega) + V = -2\omega + V = \boxed{-18}$$

$\textcircled{15}$

$$\frac{\omega + 2x - 1}{-1 - 2x\omega} = \frac{\omega - 2}{-1 - 1} = \frac{3}{-11} = \boxed{\frac{3}{-11}}$$

$\textcircled{16}$

$$\sqrt{10^2 - 6^2} = \sqrt{100 - 36} = \sqrt{64} = \boxed{8}$$

(1)

$$\textcircled{1} \frac{y(yx-1)}{\omega xy} = \frac{yx\omega}{yx\omega}$$

$$yx - 1 = 1$$

$$yx = 1 + 1$$

$$yx = 2$$

$$\boxed{x = \frac{2}{y}}$$

$$\textcircled{2} \frac{\omega x - 9}{v} = \frac{-yxv}{1xv}$$

$$\omega x - 9 = -yx$$

$$\omega x = -yx + 9$$

$$\omega x = -10$$

$$x = \frac{-10}{\omega} = \boxed{-\frac{10}{\omega}}$$

$$\textcircled{3} \frac{yx + \frac{y}{yx}}{1x + \frac{y}{yx}} = \frac{yx + \frac{y}{yx}}{1x + \frac{y}{yx}}$$

$$\omega y + yx - 1 = 1yx - x - y$$

$$yx + x = 1yx - y - \omega y$$

$$\omega x = \omega y$$

$$\boxed{x = \frac{\omega y}{\omega}}$$

$$\textcircled{4} \frac{1x + \frac{y}{yx}}{yx + \frac{y}{yx}} = \frac{y}{1}$$

$$y - 9x + 1 = y$$

$$-9x = y - y - 1$$

$$-9x = -1$$

$$x = \frac{-1}{-9}$$

$$\boxed{x = \frac{1}{9}}$$

$$\textcircled{5} \frac{yx + \frac{y}{yx}}{yx + \frac{y}{yx}} = \frac{\omega xy}{yx}$$

$$yx + 1 = \omega x$$

$$yx - \omega x = -1$$

$$-x = -1$$

$$\boxed{x = 1}$$

الخيار ب

$$\textcircled{4} \frac{-yx\omega}{1x\omega} = \frac{1\omega xy}{1\omega xy}$$

$$-yx = y$$

$$x = \frac{y}{-y} = \boxed{-1}$$

$$\textcircled{5} \frac{-\omega}{y} x + \frac{1x^y}{yx} = \frac{-1xy}{yx}$$

$$-\omega x + y = -y$$

$$-\omega x = -y - y$$

$$-\omega x = -2y$$

$$x = \frac{-2y}{-\omega} = \boxed{\frac{2y}{\omega}}$$

$$\textcircled{6} \frac{yx + \frac{y}{yx}}{1x + \frac{y}{yx}} = \frac{y}{1}$$

$$1 + yx - y = 0$$

$$yx = y - 1$$

$$yx = -1$$

$$\boxed{x = \frac{-1}{y}}$$

$$\textcircled{7} \frac{y(yx)}{1xy} = \frac{y(\omega x + y)}{1xy} = \frac{y}{1xy} = \frac{yx + y}{1y}$$

$$yx - yx - y = 1yx - yx - y$$

$$yx - yx - 1yx + y = -y + y$$

$$-10x = 0$$

$$\boxed{x = \frac{0}{-10}}$$

$$\textcircled{8} \frac{y}{1} + \frac{y(yx-1)}{yx} = \frac{y(yx)}{yx}$$

$$y + yx - y = 1yx$$

$$yx - 1yx = y - y$$

$$-1x = 0$$

$$\boxed{x = 0}$$

$$\textcircled{9} \frac{-yx}{\omega xy} x + \frac{yx\omega}{yx\omega} = \frac{1x1\omega}{1x1\omega}$$

$$-yx + \omega x = 1\omega$$

$$\boxed{x = 1\omega}$$

ادامہ کے شیخ کا پرچہ (۴)

$$(۱۲) \frac{2x^3}{2x^2} = \frac{1x^4}{1x^2} - \frac{1x^2}{1x^2} x$$

$$3x = 9 - 4x$$

$$3x + 4x = 9$$

$$7x = 9$$

$$\boxed{x = \frac{9}{7}}$$

(۱۳)

$$\frac{2x^3}{2x^2} - \frac{1x^4}{1x^2} = \frac{1x^4}{2x^2}$$

$$1 - 9x = 9$$

$$-9x = 9 - 1$$

$$-9x = -2$$

$$x = \frac{-2}{-9} = \frac{2}{9}$$

$$\frac{1}{5}x + \frac{2x^0}{1x^0} = \frac{5x^0}{1x^0}$$

سوال (۲)

$$x + 2x = 5$$

$$3x = 5$$

$$\boxed{x = \frac{5}{3}}$$

$x, x+2, x+4, \dots$

سوال (۳) م عدد زوج یا فرد متوالی:

$$(x) + (x+2) + (x+4) = 234$$

$$3x = 234 - 4 - 2$$

$$3x = 228$$

$$x = \frac{228}{3}$$

$$x = 76 \rightarrow \boxed{76, 78, 80}$$

سوال (۴) م عدد متوالی $x, x+1, x+2$

$$(x) + (x+1) + (x+2) = 119$$

$$3x = 119 - 1 - 2$$

$$3x = 116$$

$$x = \frac{116}{3}$$

$$x = 38 \rightarrow 42, 43, 44$$