

(2)

$$\frac{-2 \times (-5+3)}{(-2)^2} - \frac{(-3^3+6) \times (-2)}{-7-(-4)}$$

$$\frac{1+7 \times 2}{1+14}$$

$$\boxed{15}$$

$$\frac{-2 \times (-2)}{(-2)^2} - \frac{(-27+6) \times (-2)}{-7+4}$$

$$\frac{2 \times 2}{4} - \frac{21 \times (-2)}{-3}$$

$$\frac{2}{2} + \frac{21 \times 2}{3}$$

$$(3) \quad \frac{-7-4 \times \left(\frac{-8+14}{-6}\right) - |(-3)^2|}{(-9) \times 2 - 5 \times (-3)}$$

$$\frac{-7-4 \times \frac{6}{-6} - (-3)^2}{-18+15}$$

$$\frac{-7-4 \times (-1) - 9}{-3}$$

$$\frac{-7-4 \times -9}{-3}$$

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

$$\boxed{4}$$

$$(4) \quad \frac{(-2^2) \times (-5) + |-2| \times (-3^2)}{(-2)^3 - (-3)^2 + |-4^2|}$$

$$\frac{4 \times 5 + 2 \times (-3^2)}{-8-9+16}$$

$$\frac{20-2 \times 9}{-8-9+16}$$

$$\frac{20-18}{-1}$$

$$\frac{2}{-1}$$

$$\boxed{-2}$$

(5)

$$\frac{5}{6} - \frac{7}{8}$$

$$-\frac{2}{3} + \frac{3}{4}$$

$$-\frac{1}{24}$$

$$\frac{1}{12}$$

$$-\frac{1}{24}$$

$$\frac{1}{12}$$

$$\boxed{-\frac{1}{2}}$$

(6) $\left[\left(-\frac{3}{4}\right) \div \left(-\frac{15}{16}\right)\right] \div \left(\frac{8}{-25}\right)$

$$\left(\frac{3}{4} \times \frac{16}{15}\right) \div \frac{8}{-25}$$

$$\frac{4}{5} \div \frac{8}{-25}$$

$$-\frac{4}{5} \times \frac{25}{8}$$

$$\boxed{-\frac{5}{2}}$$

(7) $-2 \times [4m - (2m - 5)] = -4 - 3 \times [2 \times (-m + 4) - 1]$

$$-2(4m - 2m + 5) = -4 - 3(-2m + 8 - 1)$$

$$-2(2m + 5) = -4 - 3(-2m + 7)$$

$$-4m - 10 = -4 + 6m - 21$$

$$-4m - 10 = -25 + 6m$$

$$-4m - 6m = -25 + 10$$

$$10m = -15$$

$$\boxed{m = -\frac{3}{2}}$$

$$(8) \quad \frac{2-t}{-4} = -\frac{(-3+t+5)}{8} + \frac{-(t-3)}{12}$$

$$\frac{2-T}{4} = -\frac{-3T+5}{8} - \frac{T-3}{12}$$

$$-6(2-T) = -3(-3T+5) - 2(T-3)$$

$$-12+6T = 9T-15-2T+6$$

$$-12+6T = 7T-9$$

$$6T-7T = -9+12$$

$$-T = 3$$

$$\boxed{T = -3}$$

$$(9) \quad 3 - (-5 - 2p) - (-2 + 3p) = |-2| - (2p - 5) - (-4p + 3)$$

$$3+5+2p+2-3p = 2-(2p-5)-(-4p+3)$$

$$3+5+2p-3p = 2-2p+5+4p-3$$

$$3+2p-3p = 2-2p+4p-3$$

$$3-p = 2p-3$$

$$-p-2p = -3-3$$

$$-3p = -6$$

$$\boxed{p = 2}$$

$$(10) \quad -2(a-2)^2 - 4(a-2) - 3(a-2)^3$$

$$-(a-2) \times (2(a-2)+4+3(a-2)^2)$$

$$-(a-2) \times (2a-4+4+3(a^2-4a+4))$$

$$-(a-2) \times (2a+3a^2-12a+12)$$

$$\boxed{-(a-2) \times (-10a+3a^2+12)}$$

$$(11) \quad 15z^3v^2 - 5xzv^2 - 2x^2yz^2 + 7x^3y$$

$$5v^2z \times (3z^2 - x) - 7x^2y \times (3z^2 - x)$$

$$(3z^2 - x) \times (5v^2z - 7x^2y)$$

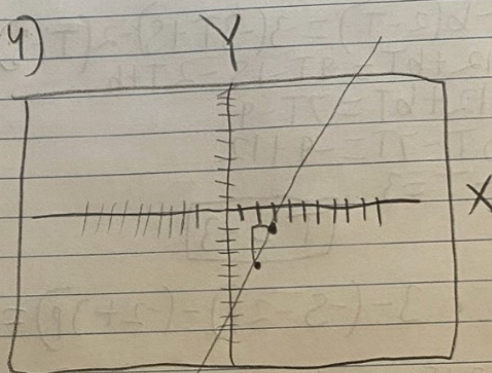
$$(12) \quad (3, -1)$$

$$y = mx + b$$

$$y = mx + b$$

$$\left(\frac{y_2 - y_1}{x_2 - x_1} \right)$$

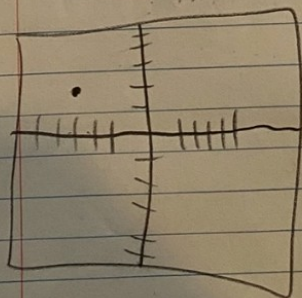
$$(2, -4)$$



$$(13) \quad -4x + 3y = 1 \quad (-3, 2)$$

perpendicular

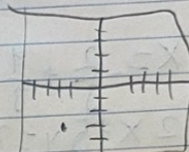
$$-4x + 3y = 1$$



$$(14) \quad -2x - 3y = -5 \quad (-2, -3) \times 1$$

$$-2x - 3y = -5 \quad (-2, -3)$$

$$y = mx + b$$



$$(15) \quad 107 \times 524 \quad \text{Russian peasant Method}$$

half	double
107	524
53.5	1048
26.75	2096
13.375	4192
6	8384
3	16768
1	33536
	<u>56068</u>

$$(16) \quad \begin{aligned} 2x - 4y &= 1 \\ -3x - y &= 2 \end{aligned}$$

$$2x - 4y = 1$$

$$y = -2 - 3x$$

$$2x - 4(-2 - 3x) = 1$$

$$x = -\frac{1}{2}$$

$$y = -2 - 3x(-\frac{1}{2})$$

$$y = -\frac{1}{2}$$

$$(x, y) = (-\frac{1}{2}, -\frac{1}{2})$$

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

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

$$1 = 1$$

$$2 = 2$$

$$(x, y) = (-\frac{1}{2}, -\frac{1}{2})$$

(17)

$$\begin{cases} 3x - 4y = -2 \\ -2x + 5y = 3 \end{cases}$$

$$x = -\frac{2}{3} + \frac{4}{3}y \quad \rightarrow \quad -2\left(-\frac{2}{3} + \frac{4}{3}y\right) + 5y = 3$$

$$-2x + 5y = 3$$

$$y = \frac{5}{7}$$

$$x = -\frac{2}{3} + \frac{4}{3} \times \frac{5}{7}$$

$$x = \frac{2}{7}$$

$$(x, y) = \left(\frac{2}{7}, \frac{5}{7}\right)$$

$$3 \times \frac{2}{7} - 4 \times \frac{5}{7} = -2$$

$$-2 \times \frac{2}{7} + 5 \times \frac{5}{7} = 3$$

$$\begin{cases} -2 = -2 \\ 3 = 3 \end{cases}$$

$$(x, y) = \left(\frac{2}{7}, \frac{5}{7}\right)$$