

Mixed Practice

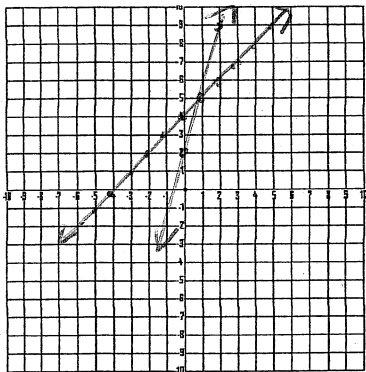
Select answers to odd only

Solve by the graphing method.

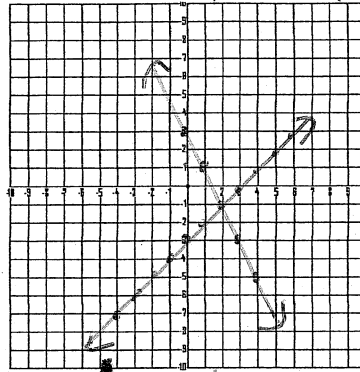
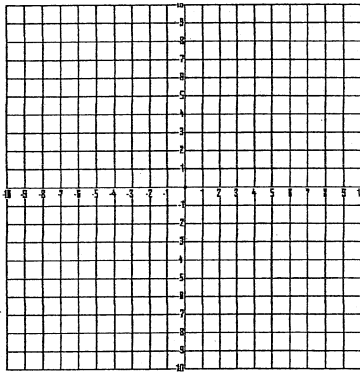
A ① $y - x = 4$ $y = x + 4$
 $y = 3x + 2$

2. $x + y = 1$
 $5x + y = -7$

③ $4x + 2y = 6$ $y = -2x + 3$
 $x - y = 3$ $x - 3 = y$



(1, 5)



(2, -1)

Solve by the substitution method. $8c + 3 = d$

4. $a = 3b$
 $a - 5b = 16$

⑤ $8c - d = -3$
 $4c + 5d = 15$
 $4c + 5(8c + 3) = 15$
 $4c + 40c + 15 = 15$

6. $9p = 2q - 6$
 $3p - q = 12$

$44c = 0$
 $c = 0$ $d = 3$ (0, 3)

Solve by the addition-or-subtraction method.

⑦ $2a + 3b = -1$
 $a - 3b = 4$
 $3a = 3$
 $a = 1$ (1, -1)

8. $5x - 9y = -3$
 $4x - 3y = 6$

⑨ $2p + 3q + 1 = 0$ $6p + 9q + 3 = 0$
 $-2 [3p + 5q + 2 = 0]$ $-6p - 10q - 4 = 0$
 $-q - 1 = 0$
 $q = -1$
 (1, -1)

Solve by whatever method you prefer.

B 10. $y = x + 2$
 $2x + y = 11$

⑪ $x + y = 9$ $4y = 12$
 $x - 3y = -3$ $y = 3$
 (6, 3)

12. $3x - 2y = 1$
 $4y = 7 + 3x$

⑬ $3x + 5y = 14$ $(\frac{9}{13}, \frac{5}{13})$
 $5 [2x - y = -1]$

14. $2a - 4b = 6$
 $7 + a = -3b$

⑮ $r - s = 4$ $r - s = 4$
 $r - 6 = 2(s - 6)$ $r - 2s = -6$
 $r - 6 = 2s - 12$ $s = 10$

16. $a - 2b = 10$
 $a + b = 2(b + 6)$

⑰ $t + u = 11$
 $(10t + u) - (10u + t) = 27$

18. $u - t = 5$
 $10t + u = 3(t + u)$

⑲ $4x + 3y = 1$
 $6x - 2y = 21$

20. $3a + 4b = -25$
 $2a - 3b = 6$

⑳ $5n - 2m = 1$
 $4n + 5m = 47$

22. $0.04x - 0.06y = 40$
 $x + y = 6000$

㉓ $2.4 = 0.3x + 0.4y$
 $5x = 2 + 6y$

24. $3a + 2b = 4$
 $\frac{1}{3}(2a + b) = 1$

⑳ $\frac{1}{3}(3a - 2b) = -3$
 $3(a - b) = -9$

26. $\frac{5c}{4} + d = \frac{11}{2}$
 $c + \frac{d}{3} = 3$

㉑ $2x - \frac{5}{2}y = 13$
 $\frac{x}{3} + \frac{y}{3} = \frac{14}{15}$

★ 17-27 on next paper

$$17. \quad t + u = 11$$

$$(10t + u) - (10u + t) = 27$$

$$\hookrightarrow 9t - 9u = 27$$

$$\hookrightarrow t - u = 3$$

$$t + u = 11$$

$$t - u = 3$$

$$\hline 2t = 14$$

$$t = 7$$

$$(7, 4)$$

$$19. \quad 2[4x + 3y = 1] \rightarrow 8x + 6y = 2$$

$$3[6x - 2y = 21] \rightarrow 18x - 6y = 63$$

$$\hline 26x = 65$$

$$x = \frac{5}{2}$$

$$\left(\frac{5}{2}, -3\right)$$

$$21. \quad 5[5n - 2m = 1] \rightarrow 25n - 10m = 5$$

$$2[4n + 5m = 47] \rightarrow 8n + 10m = 94$$

$$\hline 33n = 99$$

$$n = 3$$

$$(8, 3)$$

$$\textcircled{23} \quad \begin{cases} 2.4 = 0.3x + 0.4y \\ 5x = 2 + 6y \end{cases}$$

$$[3x + 4y = 24] \cdot 6$$

$$[5x - 6y = 2] \cdot 4$$

$$18x + 24y = 144$$

$$20x - 24y = 8$$

$$\hline 38x = 152$$

$$x = 4$$

$$(4, 3)$$

$$\textcircled{25} \quad \left[\frac{1}{3}(3a - 2b) = -3\right] \cdot 3$$

$$3(a - b) = -9$$

$$3a - 2b = -9$$

$$3a - 3b = -9$$

$$\hline b = 0$$

$$(-3, 0)$$

$$27. \quad [2x - \frac{5}{2}y = 13] \cdot 2$$

$$\left[\frac{x}{3} + \frac{y}{3} = \frac{14}{15}\right] \cdot 15$$

$$4x - 5y = 26$$

$$5x + 5y = 14$$

$$\hline 9x = 40$$

$$x = \frac{40}{9}$$

$$\left(\frac{40}{9}, -\frac{29}{45}\right)$$

$$3. \quad 8m + n = 3 \rightarrow n = 3 - 8m$$

$$5m + 2n = -27$$

$$5m + 2(3 - 8m) = -27 \quad (3, -21)$$

$$5m + 6 - 16m = -27$$

$$-11m = -33$$

$$m = 3$$

$$8(3) + n = 3$$

$$24 + n = 3$$

$$n = -21$$

$$4. \quad 3a - 4b = 17$$

$$a + 2b = 1 \rightarrow a = 1 - 2b$$

$$3(1 - 2b) - 4b = 17$$

$$3 - 6b - 4b = 17$$

$$-10b = 14$$

$$b = \frac{-14}{10} = \frac{-7}{5}$$

$$a + 2\left(\frac{-7}{5}\right) = 1$$

$$a + \frac{-14}{5} = \frac{5}{5} \quad \left(\frac{19}{5}, \frac{-7}{5}\right)$$

$$a = \frac{19}{5}$$

$$5. \quad y = 3x - 4$$

$$6x - 2y = 8 \rightarrow \frac{6x - 8}{2} = \frac{2y}{2}$$

$$3x - 4 = y$$

Same line, therefore
infinitely many solutions

$$6. \quad y = 4x - 3$$

$$2y - 8x = -8 \rightarrow \frac{2y - 8x - 8}{2} = \frac{-8}{2}$$

$$y = 4x - 4$$

∅, same slope therefore
lines are parallel

$$7. \quad \text{Let } s = \text{small}$$

$$\text{let } l = \text{large}$$

$$s + l = 7 \rightarrow s = 7 - l$$

$$20s + 30l = 180 \quad \text{substitute}$$

$$20(7 - l) + 30l = 180$$

$$140 - 20l + 30l = 180$$

$$10l = 40$$

$$l = 4 \quad \text{large}$$

$$s = 3 \quad \text{small}$$

$$8. \quad 4x - 5y = 0$$

$$\oplus \quad 8x + 5y = -60$$

$$12x = -60$$

$$x = -5$$

$$(-5, -4)$$

$$4(-5) - 5y = 0$$

$$-20 = 5y$$

$$-4 = y$$

$$9. \quad 10p + 4q = 2$$

$$\ominus \quad 10p - 8q = 26$$

$$12q = -24$$

$$q = -2$$

$$(1, -2)$$

$$10p + 4(-2) = 2$$

$$10p - 8 = 2$$

$$10p = 10$$

$$p = 1$$

$$10. \quad \begin{cases} -8r + s = -17 \\ 5r - 3s = -4 \end{cases} \rightarrow \begin{cases} -24r + 3s = -51 \\ 5r - 3s = -6 \end{cases}$$

$$-19r = -57$$

$$r = 3$$

$$5(3) - 3s = -6$$

$$15 - 3s = -6$$

$$-3s = -21$$

$$s = 7$$

$$(3, 7)$$

$$11. \begin{cases} 2x + 5y = 16 \\ 5x - 3y = -22 \end{cases} \begin{matrix} \times 3 \\ \times 5 \end{matrix} \rightarrow \begin{cases} 6x + 15y = 48 \\ 25x - 15y = -110 \end{cases}$$

$$\hline 31x = -62$$

$$x = -2$$

$$2(-2) + 5y = 16$$

$$-4 + 5y = 16$$

$$5y = 20$$

$$y = 4$$

$$(-2, 4)$$

$$14. n = d - 4$$

$$\frac{n+17}{d+17} = \frac{5}{6}$$

$$6(n+17) = 5(d+17)$$

$$6n + 102 = 5d + 85$$

substitute

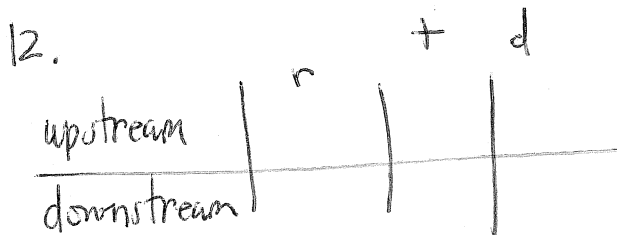
$$6(d-4) + 102 = 5d + 85$$

$$6d - 24 + 102 = 5d + 85$$

$$d = 7$$

$$n = 7 - 4 = 3$$

$$\left(\frac{3}{7}\right)$$



don't need all that!

$$r - c = 3$$

$$r + c = 8$$

$$\hline 2r = 11$$

$$r = \frac{11}{2} = 5\frac{1}{2} \text{ mph}$$

$$c = 2\frac{1}{2} \text{ mph}$$

13.

	now	6 ago	6 more
Joe	J	J-6	J+6
daughter	D	D-6	D+6

$$J - 6 = 2 + 5(D - 6)$$

$$J + 6 = 11 + 2(D + 6)$$

$$J - 6 = 2 + 5D - 30$$

$$J = 5D - 22$$

$$J + 6 = 11 + 2D + 12$$

$$J = 2D + 17$$

$$J = 2(13) + 17$$

$$J = 26 + 17$$

$$J = 43$$

substitute $5D - 22 = 2D + 17$

$$3D = 39$$