

Simultaneous equations

Name: _____

All Multiple Choice

1 The coordinate pair $(-2, -1)$ is a solution to which one of the following pairs of simultaneous equations?

A $3x + 2y = -8$
 $2x + 3y = -6$

B $3x - 2y = -4$
 $2x - 3y = 1$

C $2x + 3y = -7$
 $3x + 2y = -8$

D $2x - 3y = 1$
 $2x + 3y = -6$

2 The coordinate pair $(3, -7)$ is a solution to which one of the following pairs of simultaneous equations?

A $4x - 7y = 61$
 $3x + y = 2$

B $7x - 4y = 49$
 $x + 3y = -19$

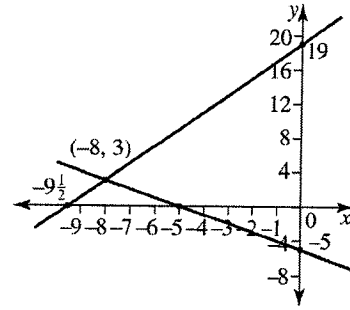
C $4x + 7y = -37$
 $3x - y = -2$

D $3x - 7y = 58$
 $4x + y = 6$

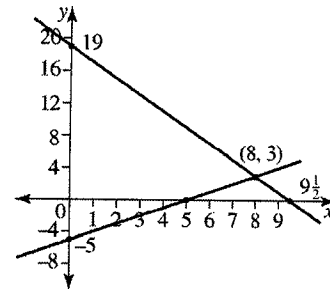
3 The graphical solution to the following pair of simultaneous equations is:

$x - y = 5$
 $2x + y = 19$

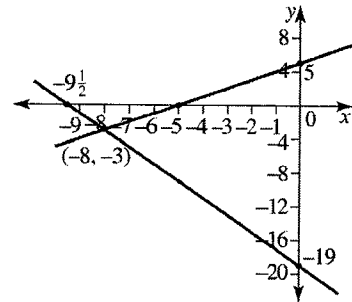
A



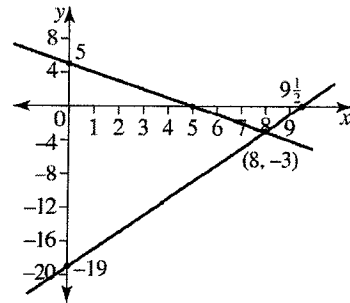
B



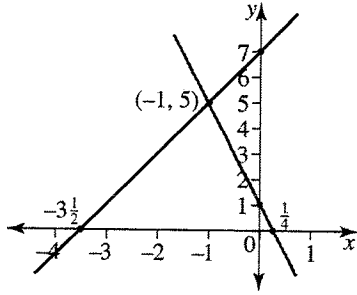
C



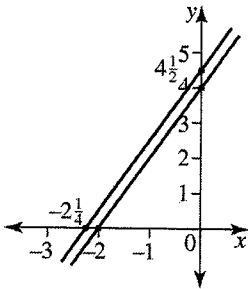
D



- 4 The figure below depicts a graphical solution to which of the following pairs of simultaneous equations?



- A $y = 1 - 4x$
 $y = 2x + 7$
- B $y = 1 + 4x$
 $y = 2x + 7$
- C $y = 1 + 4x$
 $y = 2x - 7$
- D $y = 1 - 4x$
 $y = 2x - 7$
- 5 The figure below illustrates which of the following pairs of simultaneous equation?



- A $y = 2x - 4$
 $4x - 2y + 9 = 0$
- B $y = 2x + 4$
 $4x + 2y + 9 = 0$
- C $y = 2x - 4$
 $4x - 2y - 9 = 0$
- D $y = 2x + 4$
 $4x - 2y + 9 = 0$

- 6 The solution to the following pair of simultaneous equations is:

$$2x - y = -6$$

$$3x + y = -29$$

- A (3, 12)
B (-7, -8)
C (-4, -2)
D (4, 14)

- 7 The solution to the following pair of simultaneous equations is:

$$5x - 2y = -16$$

$$3x + 4y = -7$$

- A $\left(-5, -4\frac{1}{2}\right)$
B $\left(-3, \frac{1}{2}\right)$
C $\left(-1, 5\frac{1}{2}\right)$
D $\left(1, 10\frac{1}{2}\right)$

- 8 The solution to the following pair of simultaneous equations is:

$$x - 4y = 16$$

$$5x - 6y = 10$$

- A (12, -1)
B (8, -2)
C (4, -3)
D (-4, -5)

- 9 The solution to the following pair of simultaneous equations is:

$$5x - 2y = 18$$

$$2x - 5y = 24$$

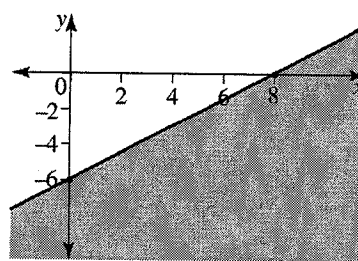
- A (6, 6)
B (-2, -14)
C (2, -4)
D (4, 1)

- 10 The solution to the following pair of simultaneous equations is:
 $7x + 9y = 1$
 $3x + 5y = 5$
- A $(-5, -4)$
B $(-4, 5)$
C $(-5, 4)$
D $(5, -4)$
- 11 The solution to the following pair of simultaneous equations is:
 $x = 4 - 6y$
 $9x - 4y = 65$
- A $(4, 0)$
B $\left(7, \frac{1}{2}\right)$
C $(10, -1)$
D $\left(13, -1\frac{1}{2}\right)$
- 12 The solution to the following pair of simultaneous equations is:
 $y = 3x - 7$
 $12x - 5y = 34$
- A $\left(\frac{1}{3}, -6\right)$
B $\left(\frac{2}{3}, -5\right)$
C $\left(-\frac{1}{3}, -8\right)$
D $\left(-\frac{2}{3}, -9\right)$
- 13 The solution to the following pair of simultaneous equations:
 $x + y = 1$
 $2x - 6y = 3$
- A $\left(-1\frac{1}{8}, \frac{1}{8}\right)$
B $\left(\frac{7}{8}, \frac{1}{8}\right)$
C $\left(1\frac{1}{8}, -\frac{1}{8}\right)$
D $\left(1\frac{7}{8}, \frac{7}{8}\right)$
- 14 The solution to the following pair of simultaneous equations is:
 $2x - y = -22$
 $5x - 4y = -73$
- A $(1, 24)$
B $(-1, 20)$
C $(-3, 16)$
D $(-5, 12)$
- 15 The solution to the following pair of simultaneous equations is:
 $7x = -61 - 3y$
 $4x - 2y = -20$
- A $(-7, -4)$
B $(-10, 3)$
C $(-13, 10)$
D $(-16, 17)$
- 16 The two numbers whose sum is 63 and whose difference is 15 are:
- A 45 and 18
B 43 and 20
C 41 and 22
D 39 and 24

- 17 A rectangular courtyard has a total perimeter of 32 metres. The length is 2 metres more than the breadth. The dimensions of the courtyard are:
 A 6 metres by 9 metres
 B 7 metres by 9 metres
 C 7 metres by 8 metres
 D 6 metres by 8 metres
- 18 A moneybox contains only \$1 and 20c coins. If there are 93 coins altogether, totalling \$51.40, the number of each type of coin respectively is:
 A 43 and 50
 B 42 and 51
 C 41 and 52
 D 40 and 53
- 19 Damian buys 9 tennis balls and 2 tennis racquets for \$225.40. Emma buys 6 tennis balls and 3 tennis racquets for \$296.10. The cost of each tennis ball and each tennis racquet, respectively, is:
 A \$5.60 and \$87.50
 B \$6.50 and \$85.70
 C \$6.50 and \$78.50
 D \$3.50 and \$75.80
- 20 Seven adults and 5 children pay \$115.20 to travel on a steam train, whereas 5 adults and 2 children pay \$71.60. The fare for each adult and each child, respectively, is:
 A \$11.80 and \$8.60
 B \$11.60 and \$6.80
 C \$11.10 and \$6.60
 D \$11.10 and \$8.80
- 21 The substitution of the coordinate pair $(2, -6)$ makes which one of the following inequalities true?
 A $7x - 2y < 3$
 B $2x - 7y < 3$
 C $3x - 2y > 7$
 D $3x + 2y > 7$

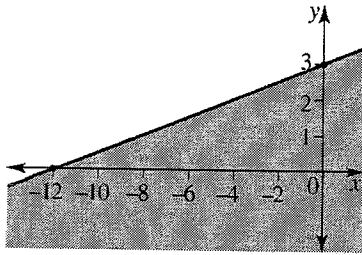
- 22 The substitution of the coordinate pair $(-3, 3)$ makes which one of the following inequalities false?
 A $2y \leq 3 - 5x$
 B $3y \leq 5 + 3x$
 C $5y \geq 3 + 2x$
 D $2y \geq 3 + 5x$
- 23 The substitution of the coordinate pair $(-7, -2)$ makes which one of the following inequalities true?
 A $2x + 3y > -18$
 B $3x + 2y > -18$
 C $2x - 3y < -18$
 D $3x - 2y > -18$

- 24 The figure below represents the inequality:

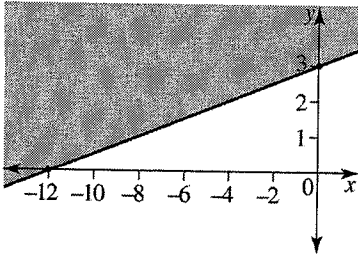


- A $3x - 4y \leq 24$
 B $3x - 4y \geq 24$
 C $3x + 4y \geq 24$
 D $4x - 3y \geq 24$

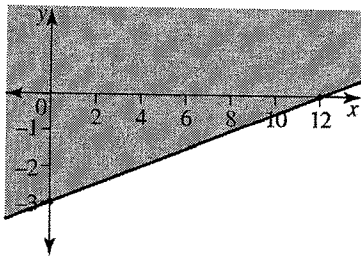
- 25 The graph of the inequality $4y \leq 12 - x$ is:
A



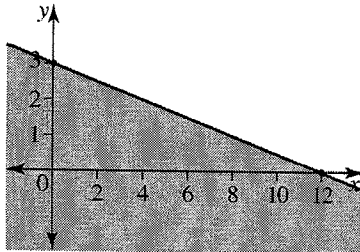
B



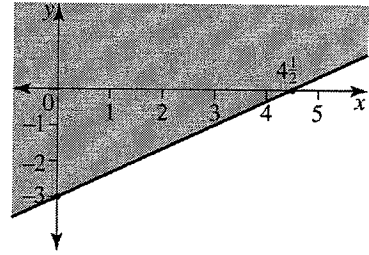
C



D



- 26 The figure below represents the inequality:



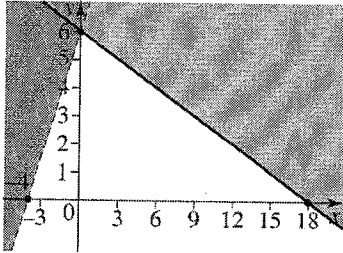
- A $3y - 2x \geq -9$
 B $2y - 3x \geq 9$
 C $3y + 2x \geq -9$
 D $2y + 3x \geq -9$

- 27 A graph to show the solution to the following pair of simultaneous inequalities is:

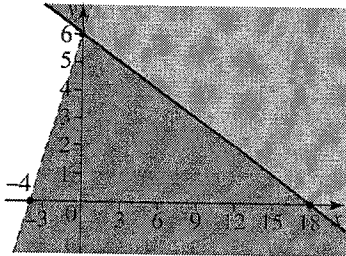
$$2y - 3x > 12$$

$$3y + x \leq 18$$

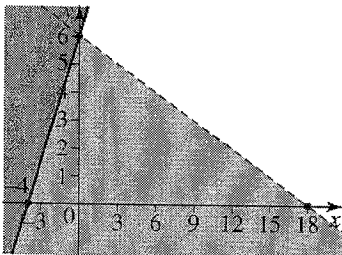
A



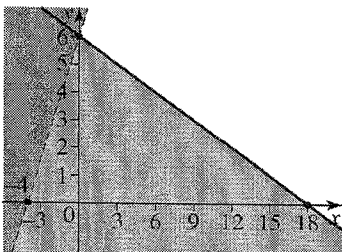
B



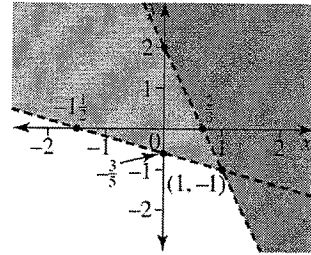
C



D



- 28 The figure below shows the solution to which of the following pairs of simultaneous inequalities?



A $y > 2 - 3x$

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

B $y < 2 - 3x$

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

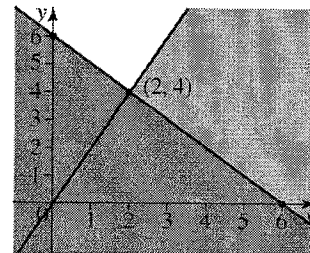
C $y > 2 - 3x$

$$5y - 2x < -3$$

D $y > 2 - 3x$

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

- 29 The figure below shows the solution to which of the following pairs of simultaneous inequations?



A $2y - 4x \leq 0$

$$y + x \geq 6$$

B $2y - 4x \leq 0$

$$y - x \geq 6$$

C $2y - 4x \leq 0$

$$y + x \leq 6$$

D $2y - 4x \geq 0$

$$y + x \geq 6$$

ANSWERS - SIMULTANEOUS EQNS

(1) C

(8) D

(15) A

(22) B

(2) A

(9) C

(16) D

(23) D

(3) B

(10) C

(17) B

(24) B

(4) A

(11) B

(18) C

(25) D

(5) D

(12) A

(19) A

(26) A

(6) B

(13) C

(20) B

(27) D

(28) D

(7) B

(14) D

(21) C

(29) C