Eighth Grade - Algebra

1) Solve the following linear equation in one variable $4 + 2(x - 3) = 13 - 3x$

- x = 3
- x = 9
- x = 4
- x = 6

2) Solve the following linear equation in one variable $3(2x - 1) - 4(5 - x) = 2$

- x = 4.5
- x = 5.6
- x = 2.5
- x = 3.5

3) Solve the following linear equation in one variable $4(2x + 1) = 17 - 2x$

- x = 4.5
- x = 1.3
- x = 2.5
- x = 3.5

4) Solve the following linear equation in one variable $5(x + 2) - 3(2x + 1) = 15$

- x = -5
- x = -8
- x = -6
- x = -7

5) Solve the following linear equation in one variable $(x/2)- ((x+2)/10) = 1$

- x = 4
- x = 5
- x = 3
- x = 6

6) Solve the following linear equation in one variable (2x-3)/4 = 1/2

- x = 3.5
- x = 4.5
- x = 2.5
- x = 5.7

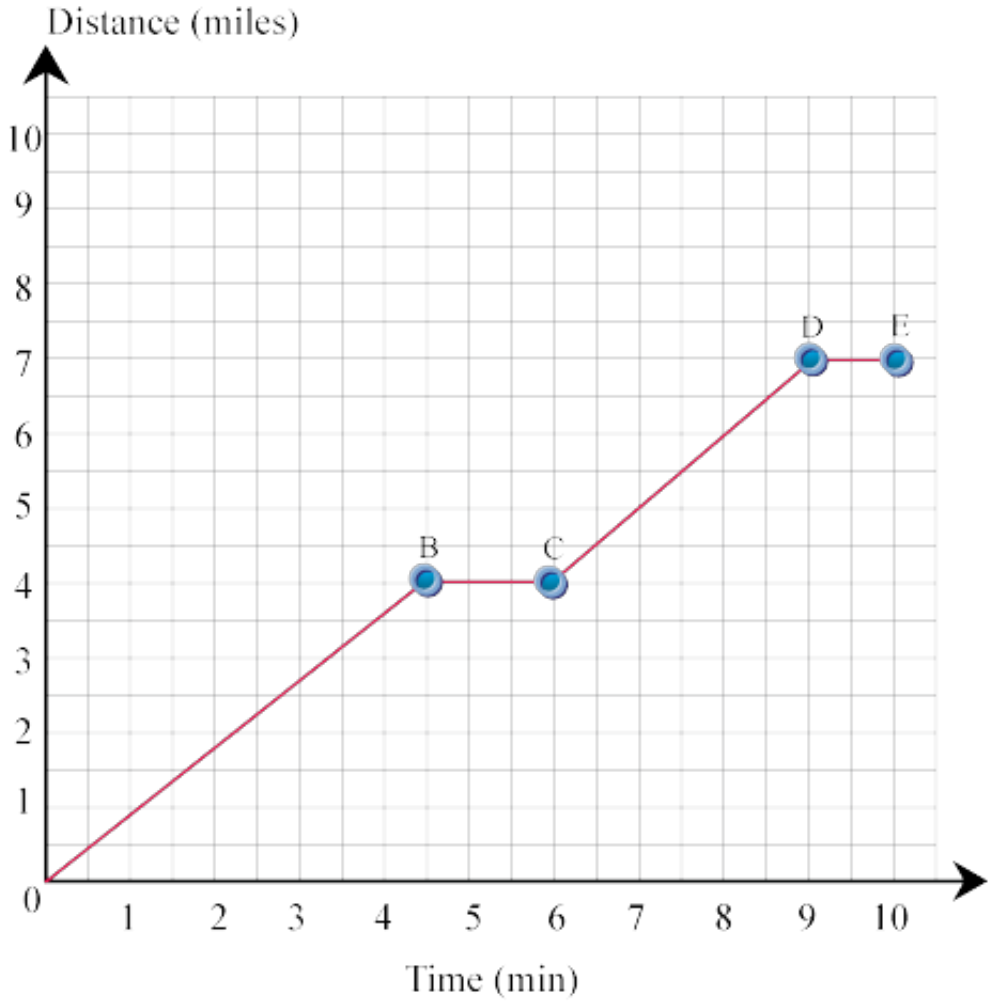
7) Solve the following linear equation in one variable (4x-7)/3 - (2x+1)/2 = 1

- x = 11.5
- x = 13.7
- x = 12.5
- x = 14.3

8) Solve the following linear equation in one variable 2(x + 4) = 3(5 - 2x)

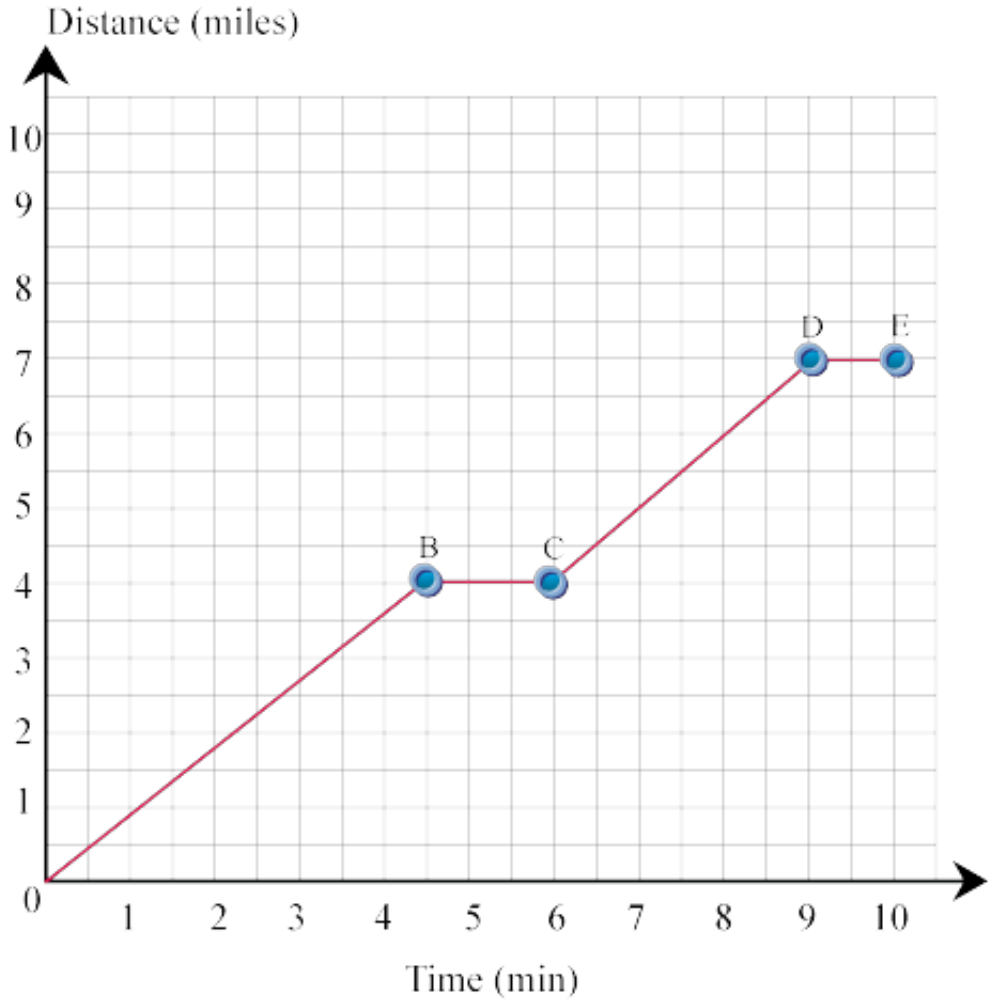
- x = 3/7
- x = 5/8
- x = 3/7
- x = 7/8

9) The graph below shows the journey of a train between stations X and Y, (a) How far is the distance between stations X and Y? (b) What happened between points B and C?



- a)7 miles, b) resting time, 2 min, slope = 0
- a)8 miles, b) resting time, 2 min, slope = 4
- a)6 miles, b) resting time, 2 min, slope = 5
- a)5 miles, b) resting time, 2 min, slope = 3

10) The graph below shows the journey of a train between stations X and Y, (a) What the speed of the train between points A and B? (b) What is the average speed of the train between points A and E?



- a)3 mile /min,b) 0.6 mile/min
- a)5 mile /min,b) 0.9 mile/min
- a)1 mile /min, b) 0.7 mile/min
- a)2 mile /min,b) 0.5 mile/min

11) Find the slope of the line joining A and B, given the coordinates of A and B. A(0, -4)and B(-5, 3)

- -5/2
- -7/5
- -3/4
- -5/6

12) Find the slope of the line joining A and B, given the coordinates of A and B. A(½ , - ¾) andB(1½ ,

¾)

- 1½
- 2?
- 3½
- 5?

13) Find the slope of the line joining A and B, given the coordinates of A and B. A[4/5, -2/3] and B [-8/5, 7/3]

- -7/5
- -4/3
- -5/4
- -6/3

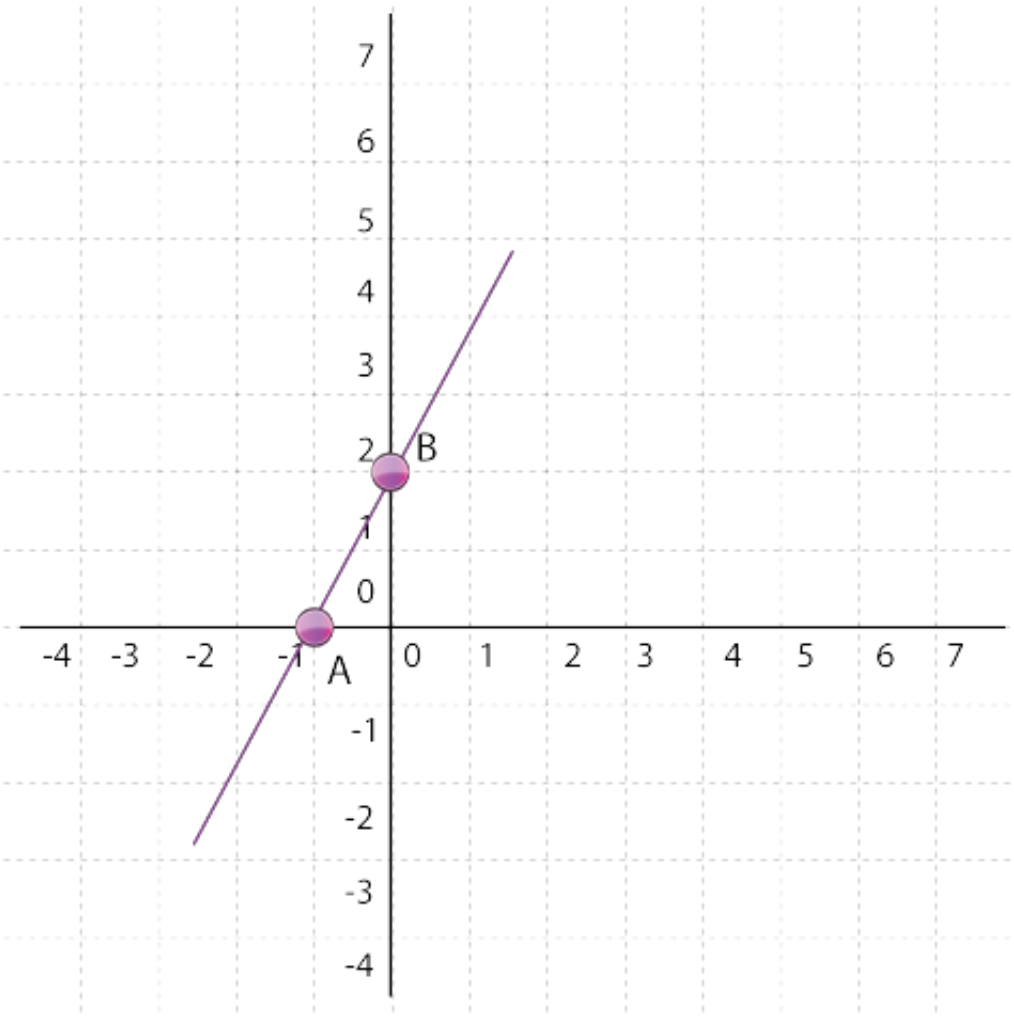
14) Find the slope of the line joining A and B, given the coordinates of A and B. A(-5, -8) and B(-7, -10)

- 2
- 1
- 7
- 4

15) Find the slope of the line joining A and B, given the coordinates of A and B. A(7, -4)and B (-5, -4)

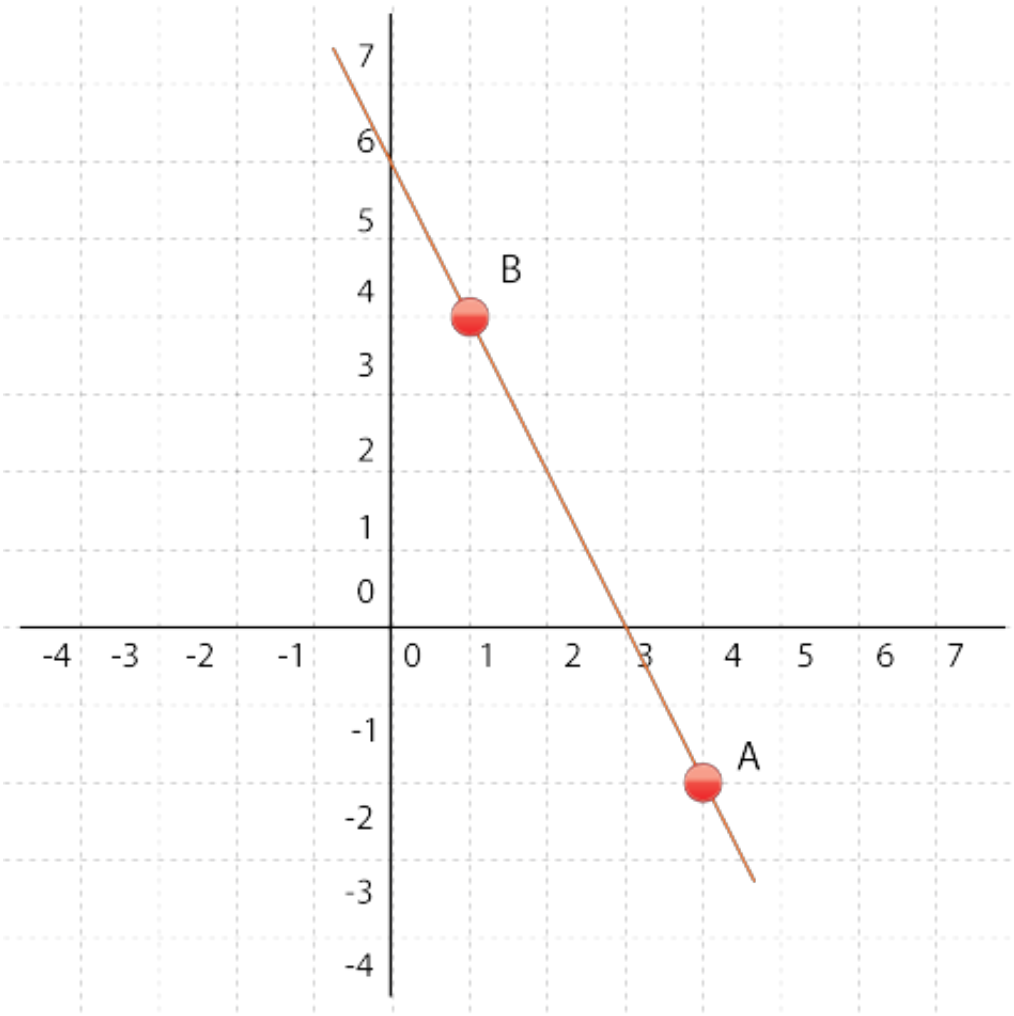
- 9
- 0
- 8
- 6

16) Find the equation of the line joining A and B in the following diagrams in the form y = mx + b, where m is the slope and b is the y-intercept



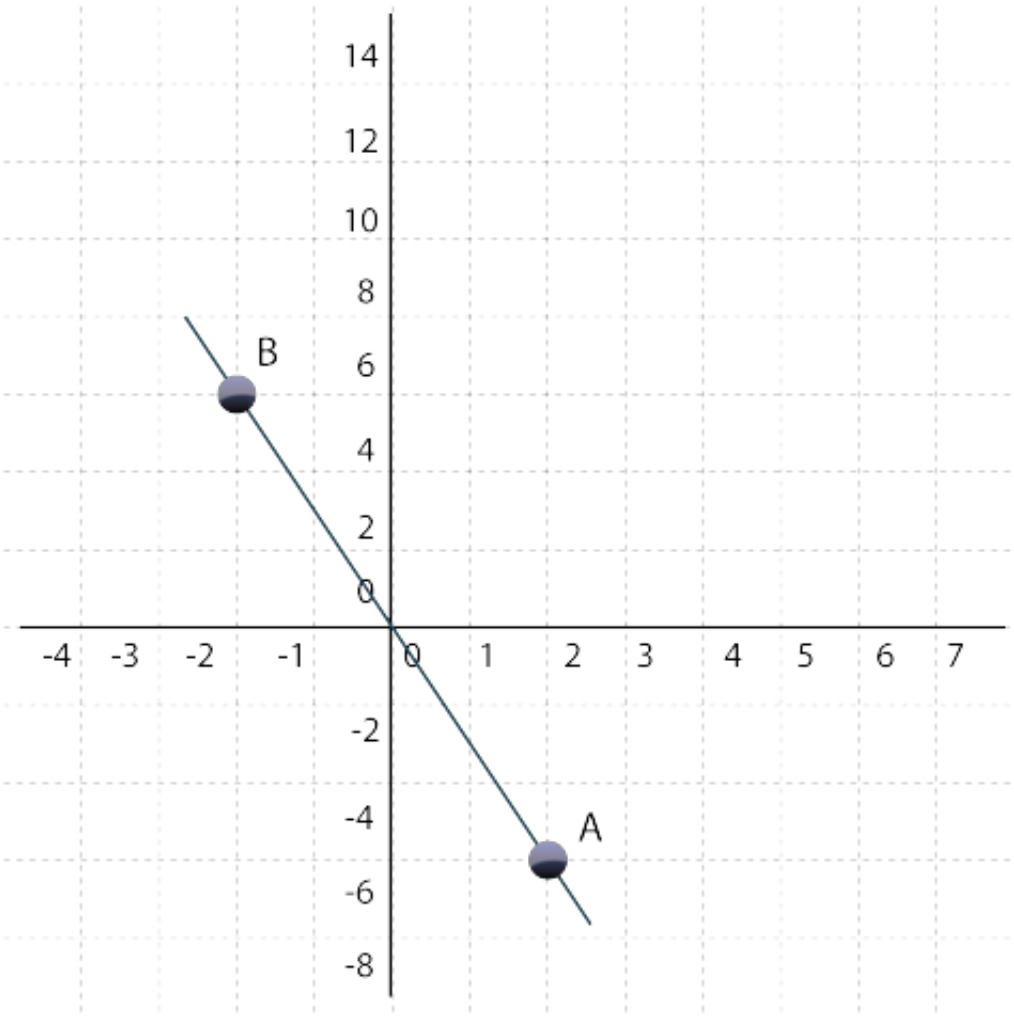
- y = x + 2
- y = 2x + 2
- y = 2x - 1
- y = 2x - 2

17) Find the equation of the line joining A and B in the following diagrams in the form y = mx + b, where m is the slope and b is the y-intercept



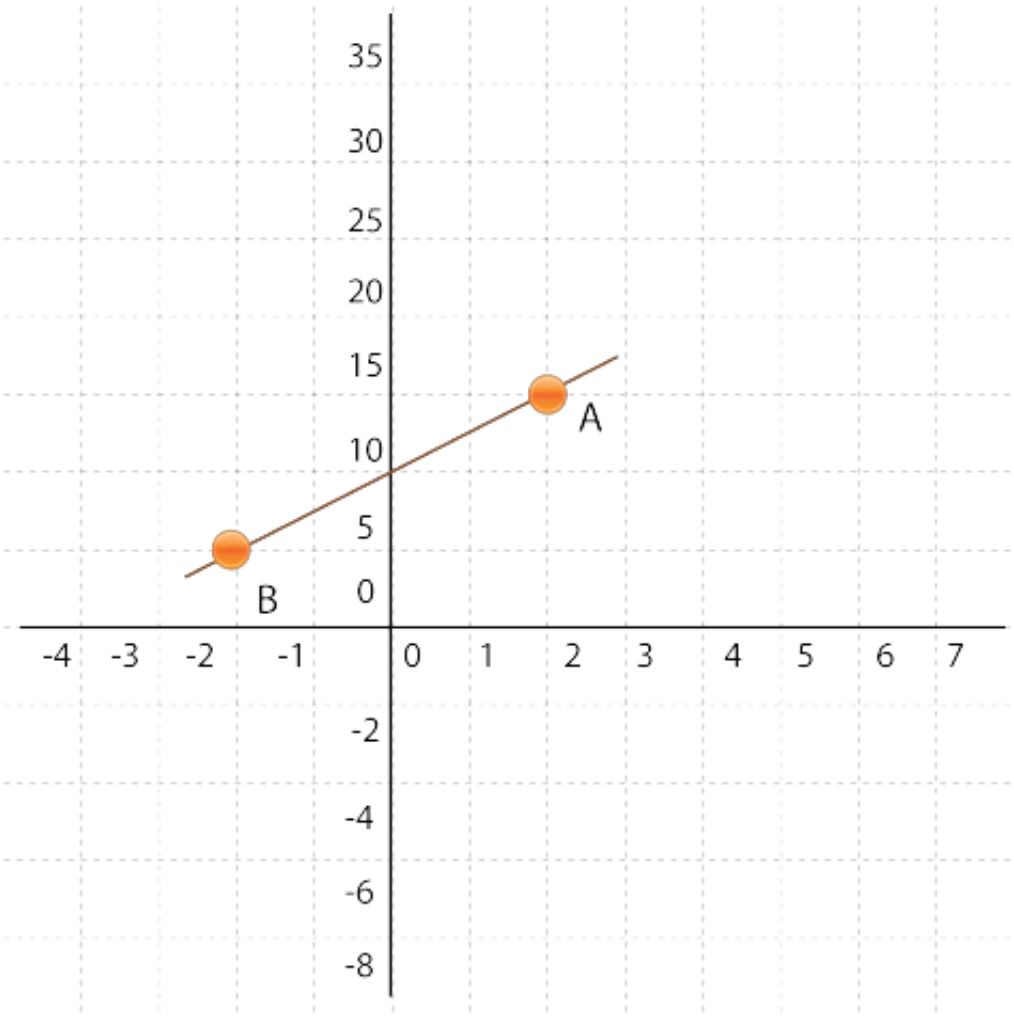
- y = -2x - 6
- y = -2x + 6
- y = -6x + 2
- y = -6x -2

18) Find the equation of the line joining A and B in the following diagrams in the form y = mx + b, where m is the slope and b is the y-intercept



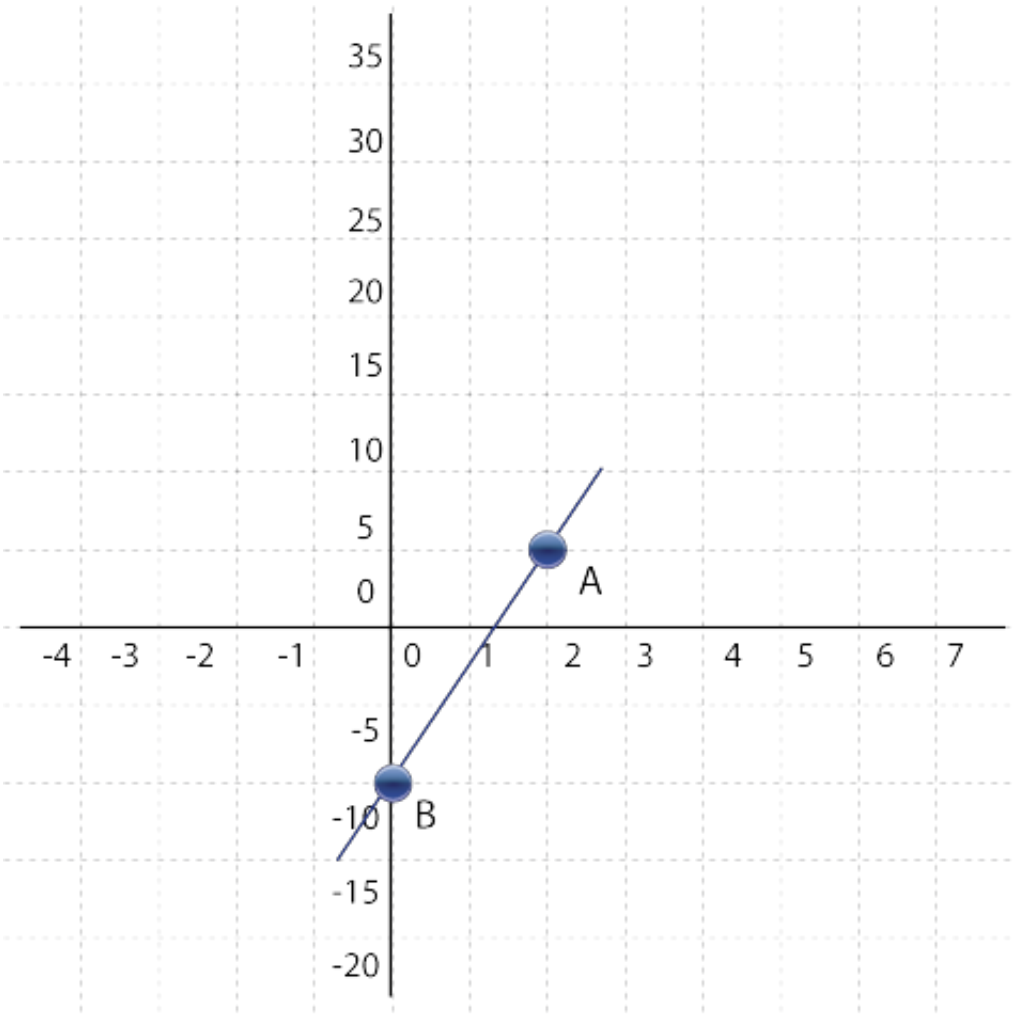
- y = -3x - 2
- y = -4x
- y = -3x
- y = -3x + 2

19) Find the equation of the line joining A and B in the following diagrams in the form y = mx + b, where m is the slope and b is the y-intercept



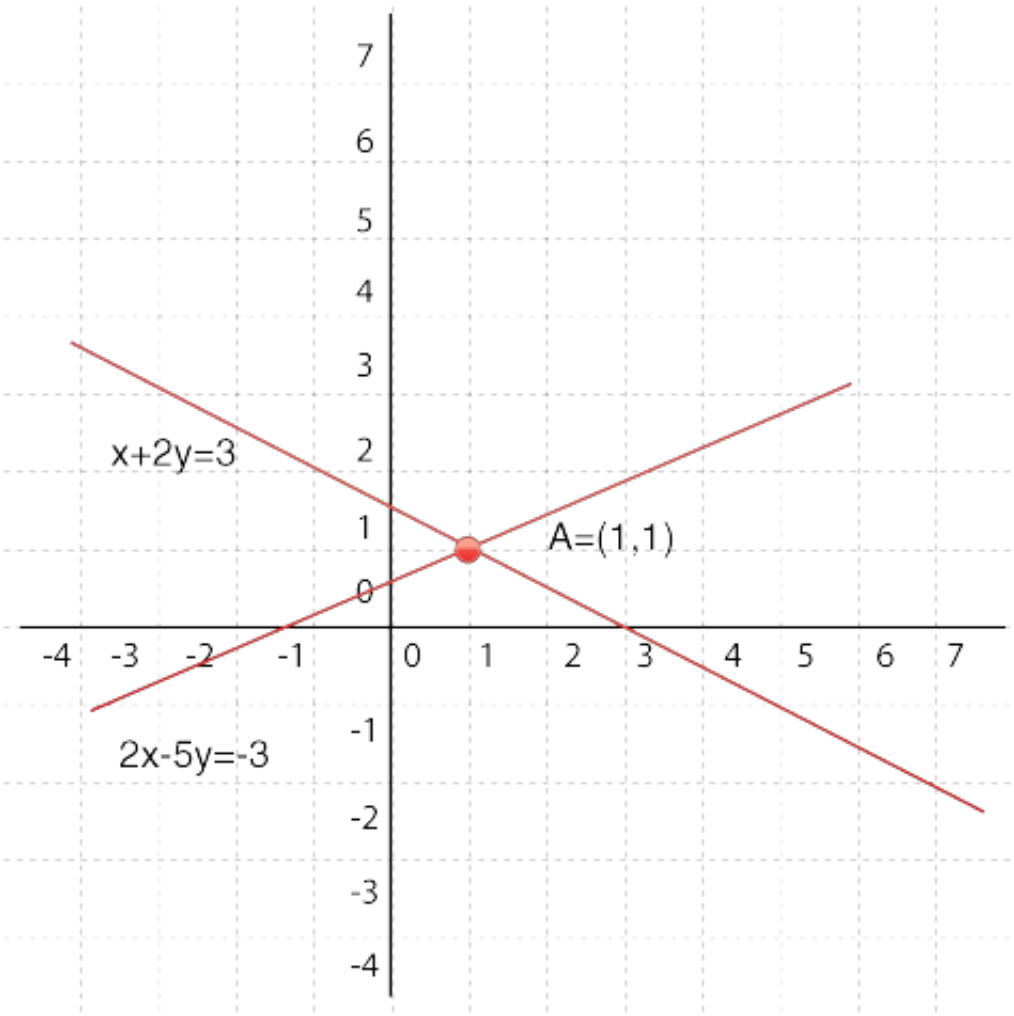
- y = 2.5x + 12
- y = 2.5x + 10
- y = -2.5x - 10
- y = 2.5x -10

20) Find the equation of the line joining A and B in the following diagrams in the form y = mx + b, where m is the slope and b is the y-intercept



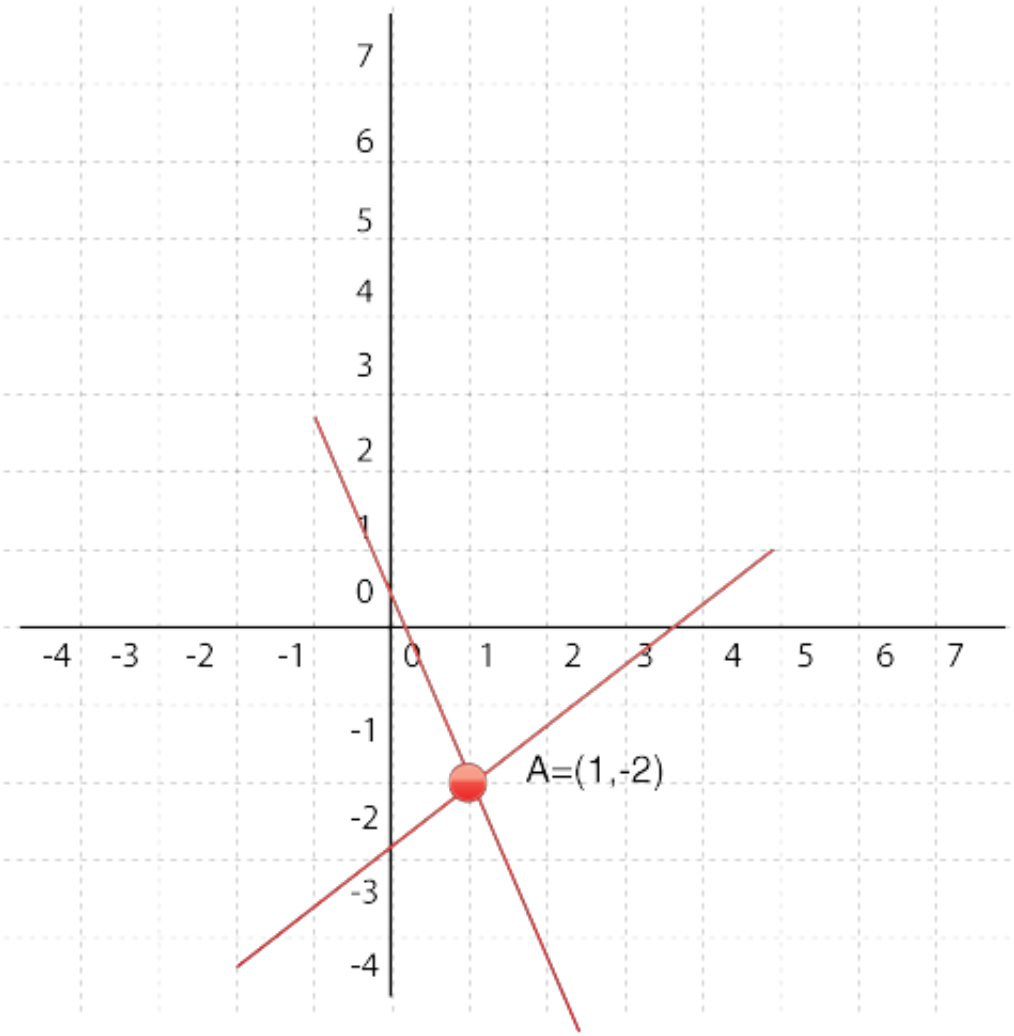
- y = 7.5x - 12
- y = -7.5x + 10
- y = 7.5x - 10
- y = 7.5x + 12

21) Solve the following simultaneous equations graphically using any DGS and state it has unique or infinitely many or no solutions 2x – 5y = -3and x + 2y = 3



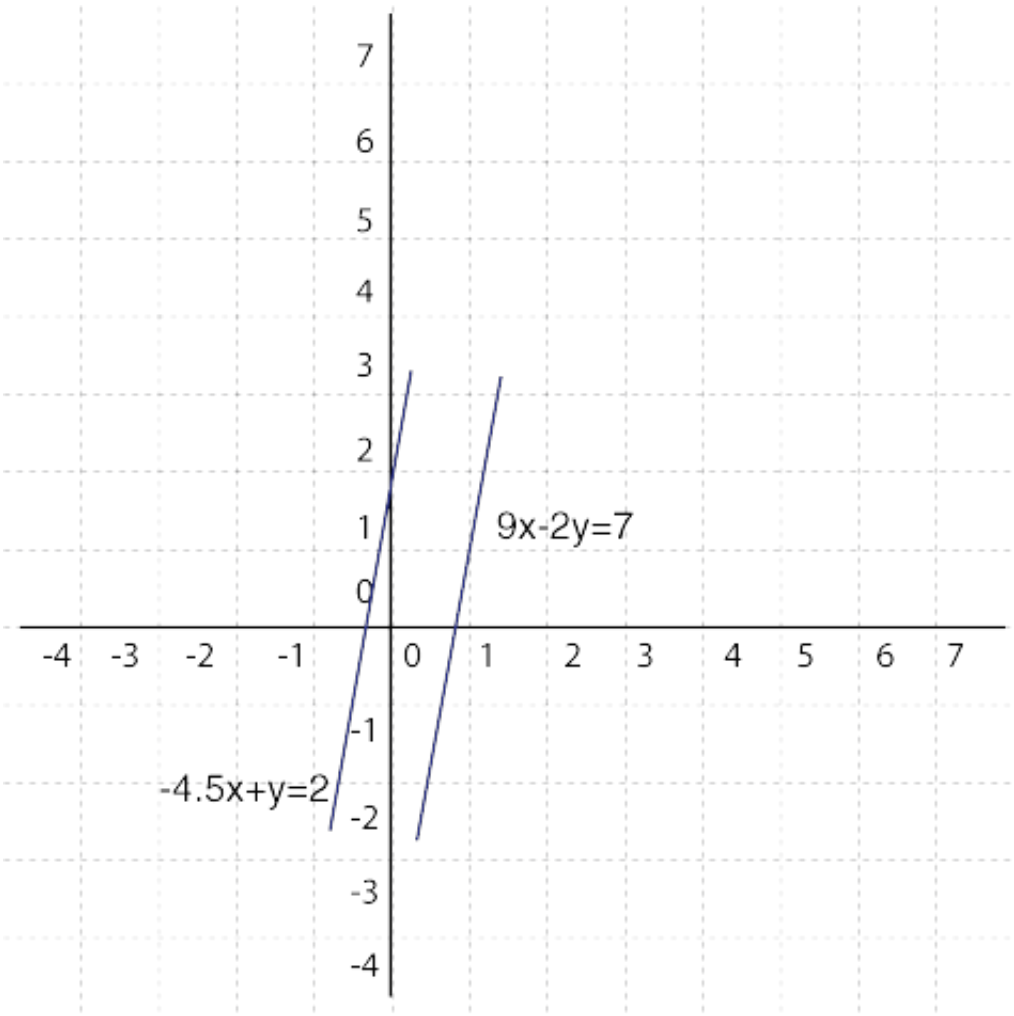
- No solution
- Infinitely many solutions
- Finitely many solutions
- Unique solutions

22) Solve the following simultaneous equations graphically using any DGS and state it has unique or infinitely many or no solutions $7x + 3y = 1$ and $3x – 4y = 11$



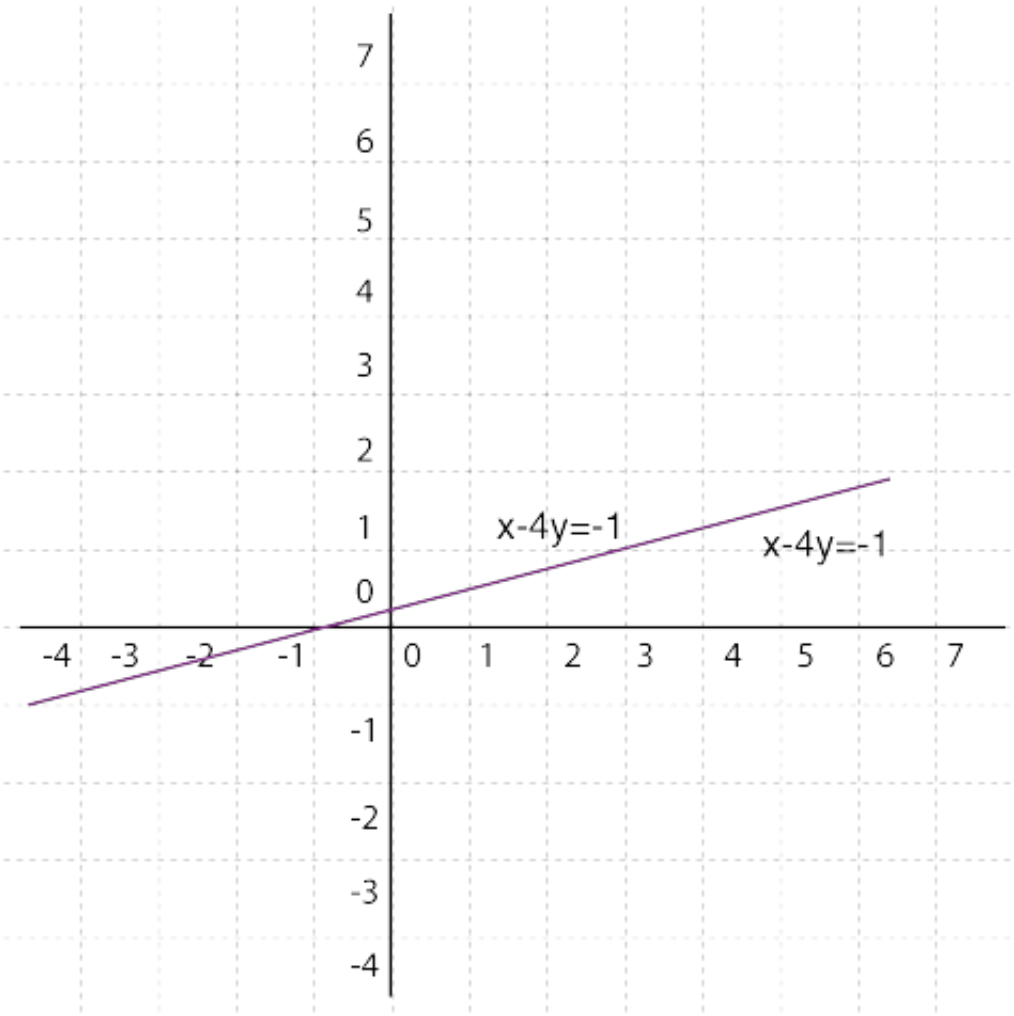
- Unique solutions
- Finitely many solutions
- No solution
- Infinitely many solutions

23) Solve the following simultaneous equations graphically using any DGS and state it has unique or infinitely many or no solutions $9x - 2y = 7$ and $-4.5x + y = 2$



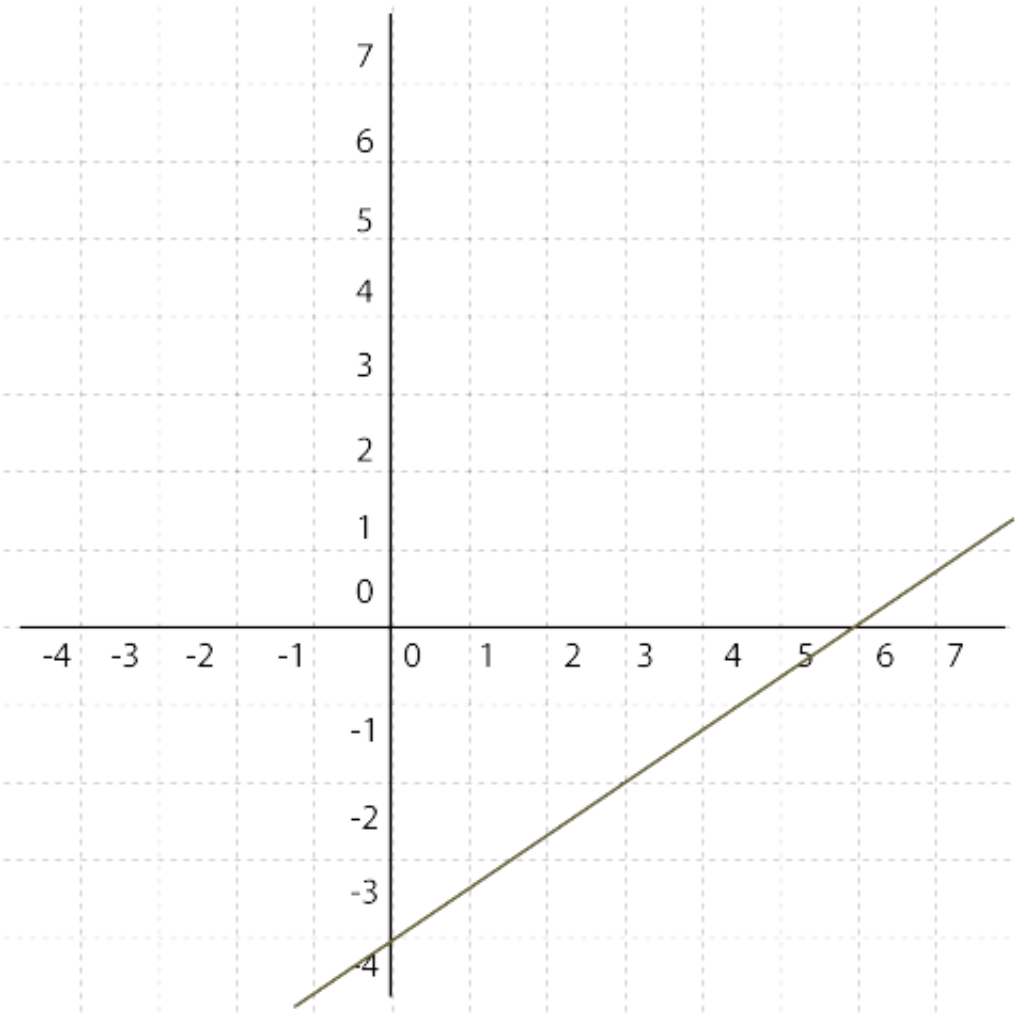
- Infinitely many solutions
- No solution
- Unique solutions
- Finitely many solution

24) Solve the following simultaneous equations graphically using any DGS and state it has unique or infinitely many or no solutions $2x = 8y - 2$ and $3x – 12y + 3 = 0$



- Finitely many solutions
- Infinitely many solutions
- No solution
- Unique solutions

25) Solve the following simultaneous equations graphically using any DGS and state it has unique or infinitely many or no solutions ½x – ¾y = 3 and 2x – 3y = 12","Infinitely many solutions



- Infinitely many solutions
- Finitely many solutions
- Unique solutions
- No solution

26) Solve the following simultaneous equations algebraically and state it has unique or infinitely many or no solutions. (if the solution is not an integer, leave your answer in fraction form) 8x - 3y = 46 and -5y = 45 - 7x

- x = 4, y = -7
- x = 7, y = -4
- x = 6, y = -3
- x = 5, y = -2

27) Solve the following simultaneous equations algebraically and state it has unique or infinitely many or no solutions. (if the solution is not an integer, leave your answer in fraction form) 3x - y = 7 and 2x + 5y = -1x

- x = 36/19, y = -5/7
- x = 34/18, y = -6/5
- x = 35/18, y = -7/6
- x = 37/17, y = -7/5

28) Solve the following simultaneous equations algebraically and state it has unique or infinitely many or no solutions. (if the solution is not an integer, leave your answer in fraction form) 2x + y = 3 and 5x - y =11

- x = 5, y = -9
- x = 3, y = -5
- x = 4, y = -8
- x = 2, y = -1

29) Solve the following linear equation in one variable 3x - (x -1) = 10

- x = 5.3
- x = 3.5
- x = 6.4
- x = 4.5

30) Solve the following linear equation in one variable 2(x - 4) = 5x - 12

- x = 8/3
- x = 3/5
- x = 1/2
- x = 4/5