Thomas Tutorials
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Solving a System of Two Linear Equations in Two Variables by Substitution

Solve each system by substitution.

1) $y = -4x + 16$ ..... (1)
$-3x + 8y = 23$ .....(2)

Solution:
Put y = -4x + 16 in equation 2, we get

x =

and solving equation 1, we get

y =

Therefore x = and y =

2) $-3x + 6y = -24$ ..... (1)
$y = 7x + 22$ .....(2)

Solution:
Put y = 7x + 22 in equation 1, we get

x =

and solving equation 2, we get

y =

Therefore x = and y =

3) $y = 5x + 5$ ..... (1)
$y = x + 5$ .....(2)

Solution:
Put y = x + 5 in equation 1, we get

x =

and solving equation 2, we get

y =

Therefore x = and y =

4) $y = 4x + 22$ .....(1)
$y = -4x - 18$ .....(2)

Solution:
Put y = 4x + 22 in equation 2, we get

x =

and solving equation 1, we get

y =

Therefore x = and y =

5) $x - 3y = -12$ ..... (1)
$4x + 6y = -12$ .....(2)

Solution:

Here we get x = and y =

6) $2x - 5y = 22$.....(1)
$x + 5y = -4$.....(2)

Solution:

Here we get x = and y =

7) $y = -4$ .....(1)
$-3x - 6y = 15$.....(2)

Solution:

Here we get x = and y =

8) $2x + 4y = -10$.....(1)
$7x + 8y = -23$.....(2)

Solution:

Here we get x = and y =

LIVEWORKSHEETS