SYSTEM OF EQUATIONS

Figure out and solve the following system of equations :

Label the following equations as consistent if it has atleast one solution and the equation as inconsistent if it has no solution :

1) $4x + 5y = 25$

$3x - y = 17$ **Consistent**

Explain : On solving the above two equations ,
Step 1) Multiply equation 2 by 5 : $15x - 5y = 85$
Step 2) Add equation 1 and 2 , we get : $19x = 110$; so $x = 5.78$
Step 3) Substitute $x = 5.78$ in equation 2 , which gives value of $y = 0.34$
As the given system of equations have one solution , therefore the following equations are consistent.

2) $13 = 8p - 6q$

$10 = -3q + 4p$ _____

Explain :

3) $-28 = -10m + 18n$

$-5m + 9n = -14$ _____

Explain :

4) 16r - 12s = 5

-4r + 3s = 17 _____

Explain :

5) -2s + 6t = 15

-4s + 12t = 30 _____

Explain :

6) y + 7x = 50

14x - 5y = -28 _ _____

Explain :

7) 2q - 5r = 20

6q - 15r = 12 _____

Explain :

8) 5y - 20z = 45

y - 4z = 9 _____

Explain :

9) -11 = -20u + 5v

6u + v = 22 _____

Explain :

10) -3n + 14m = 8

-6n + 28m = 12 _____

Explain :

11) -5p + 4q = 11

8q + 15q = 44 _____

Explain :

12) -9b + 3c = 22

6b - 2c = -11 _____

Explain :

13) m - 4n = -7

-3m + 10n = 28 _____

Explain :

14) $4y + 2x = -16$

$12y + 6x = 48$ _____

Explain :

15) $7v + 6w = 2$

$14v + 18w = 5$ _____

Explain :