

DR- Determine the Rule (Linear Function)

Look at the each input and output. Look for a consistent change. Test each change. Then write the linear function rule:

Example:
$$\begin{array}{c|c|c|c|c|c} x & 5 & 14 & -1 & 12 & -10 \\ \hline y & -1 & 8 & -7 & 6 & -16 \end{array}$$

I checked and $14 - 6 = 8$ and $12 - 6 = 6$. So I think I have to subtract 6. Let me test the others:

$$5 - 6 = -1 \text{ Yes} \quad -1 - 6 = -7 \text{ Yes} \quad -10 - 6 = -16 \text{ Yes}$$

The rule is: $y = x - 6$

1.
$$\begin{array}{c|c|c|c|c|c} x & -13 & 0 & -2 & 12 & 5 \\ \hline y & 17 & 30 & 28 & 42 & 35 \end{array}$$
 Rule: _____

2.
$$\begin{array}{c|c|c|c|c} x & -10 & 15 & -1 & 7 \\ \hline y & -40 & 60 & -4 & 28 \end{array}$$
 Rule: _____

3.
$$\begin{array}{c|c|c|c|c|c} x & -3 & 4 & 0 & 17 & 25 \\ \hline y & -15 & -8 & -12 & 5 & 13 \end{array}$$
 Rule: _____

4.
$$\begin{array}{c|c|c|c|c} x & 9 & -2 & 6 & -20 \\ \hline y & 18 & 7 & 15 & -11 \end{array}$$
 Rule: _____

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5.
$$\begin{array}{c|c|c|c|c|c} \underline{x} & -22 & 7 & 32 & -4 & 16 \\ \underline{y} & -11 & 3.5 & 16 & -2 & 8 \end{array}$$
 Rule: _____

6.
$$\begin{array}{c|c|c|c|c|c} \underline{x} & 3 & -7 & 1 & -3 & -10 \\ \underline{y} & -21 & 49 & -7 & 21 & 70 \end{array}$$
 Rule: _____

7.
$$\begin{array}{c|c|c|c|c|c} \underline{x} & 4.5 & -17 & 25 & 0 \\ \underline{y} & 9 & -34 & 50 & 0 \end{array}$$
 Rule: _____

8.
$$\begin{array}{c|c|c|c|c|c} \underline{x} & 3 & 1 & 0 & 8 & -1 \\ \underline{y} & -1 & -3 & -4 & 4 & -5 \end{array}$$
 Rule: _____

9.
$$\begin{array}{c|c|c|c|c|c} \underline{x} & 16 & -16 & 5 & -12 \\ \underline{y} & 32 & 0 & 21 & 4 \end{array}$$
 Rule: _____