

Class 12th - Chapter 6 - Continuity and Differentiability

If a number is divisible by 6,
then it is divisible by 3.

$$\frac{12}{6} = 2 \quad \frac{12}{3} = 4$$

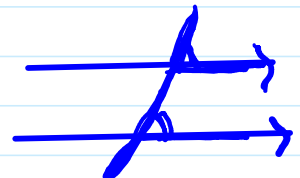
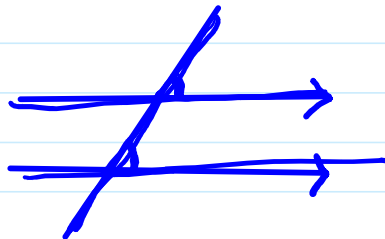
If a number is divisible by 3 then it
is divisible by 6.

$$\frac{9}{3} = 3 \quad \frac{9}{6} = 1.5$$

Ex - 3.1

(1)

True

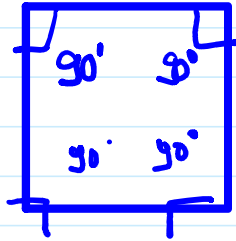


Converse. :- If the corresponding angles formed
by the transversal are equal the two
lines are $\parallel$.

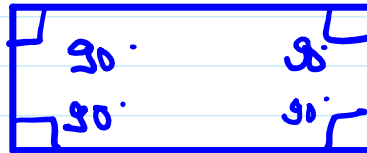
True.

True .

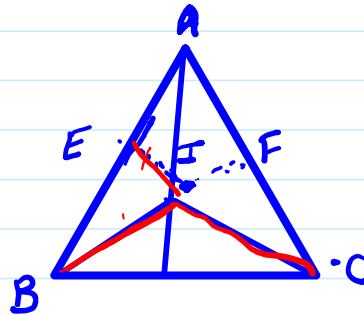
②



Converse:-

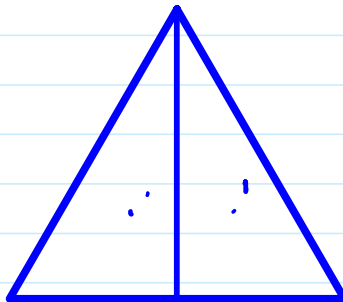


③

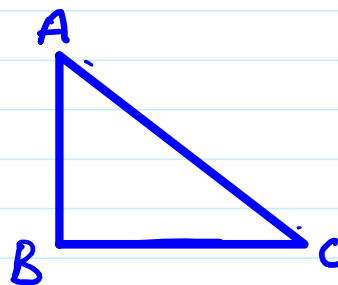


$AB = AC$
then $IE = IF$

True



Converse :- $IE = IF$ then $AB = AC$



$IE = IF$
 $AB \neq AC$

False

④ If $x = y$ then $a + x = a + y$.
True

$$\begin{aligned} & \underline{x = y} \\ & \text{adding } a \text{ both the side} \\ & a + x = y + a \end{aligned}$$

Converse:- If $a + x = a + y$ then $x = y$.

$$\begin{aligned} & a + x = a + y \\ & \text{subtracting } a \text{ both the side} \\ & \cancel{a} + x - \cancel{a} = \cancel{a} + y - \cancel{a} \end{aligned}$$

$$\underline{x = y}$$

True

⑤ If a and b are perfect square then $a \times b$ will also be a perfect square.

True

$$y = m^2$$

$$z = n^2$$

$$y \times z = m^2 \times n^2$$

$$yz = (\underline{mn})^2$$

Converse:- If $a \times b$ is a perfect square

Converse :- If $a \times b$ is a perfect square then a and b will be a perfect square.

False.

$$\overset{a}{8} \times \overset{b}{2} = \underline{4^2}$$

$\underline{8} \neq$ Not perfect sq.
 $\underline{2} \neq$ Not perfect sq.

⑦ If $x = y$ then $x^3 = y^3$.

True

Multiply x both the side.

$$x \times x = y \times \underline{x}$$

$$x^2 = y \times y$$

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$$x^2 \times x = y^2 \times \underline{x}$$

$$x^3 = y^2 \times y$$

$$x^3 = y^3$$

Converse :- If $x^3 = y^3$ then $x = y$.

True

$$-2 \times -2 = 4$$

$$\overset{x}{-2} \times \overset{x}{-2} \times \overset{x}{-2} = -8$$

True $-2 \times -2 = 4$

$2 \times 2 = 4$

$\frac{2^2}{(-2)^2} = \frac{4}{4}$

$\overset{x}{-2 \times -2 - 2} = -8$
 $\underset{y}{2 \times 2 \times 2} = \underline{8}$

⑥ If $x = y$ then $x^2 = y^2$.

True $\overset{x}{x} = \underset{y}{y}$ $x^2 = y^2$

Multiplying x both the side.

$x \times x = y \times \underline{x}$

$x^2 = y \times y$

$x^2 = y^2$

Converse :- If $x^2 = y^2$ then $x = y$

$\overset{x}{(-2)^2} = \underset{y}{(2)^2}$

$\overset{x}{-2} \neq \underset{y}{2}$

$4 = 4$

False

⑧ If n is divisible by 24 then it is divisible by 4 and 6.

True

$$24 = 4 \times 6$$

$$\Rightarrow \frac{n}{24} = \frac{n}{4 \times 6}$$

Converse If 4 and 6 is divisible by n then 24 will also be divisible by n

false

$$\frac{12}{4} \quad \frac{12}{6} \quad \frac{12}{24}$$