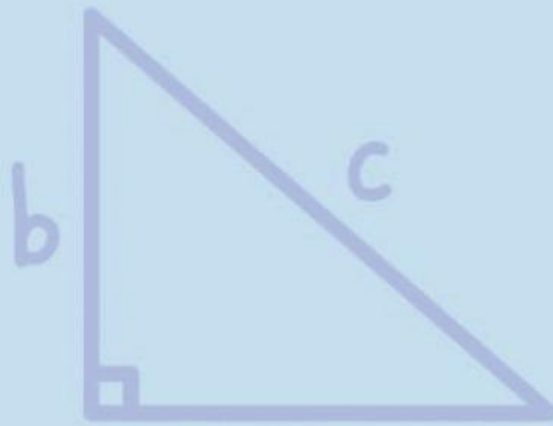


Lembar Kerja Peserta Didik

# LKPD

*teorema pythagoras*



$$c^2 = a^2 + b^2$$

Nama : \_\_\_\_\_

Kelas : \_\_\_\_\_

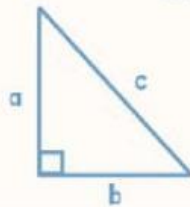


# Teorema Pythagoras



## Formula Pythagoras

Teorema merupakan pernyataan yang sudah terbukti kebenarannya. Teorema Pythagoras berbunyi: "Kuadrat sisi miring (hipotenusa) suatu segitiga siku-siku sama dengan jumlah kuadrat dari kedua sisi yang lainnya". Secara matematis dituliskan:



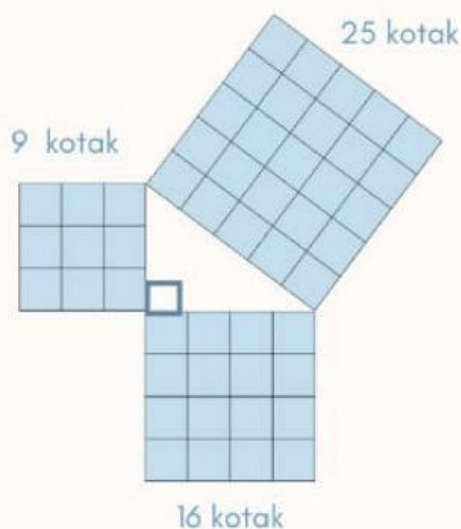
$$a^2 = c^2 - b^2$$

$$b^2 = c^2 - a^2$$

$$c^2 = a^2 + b^2$$



## Bukti Geometri



$$5^2 = 3^2 + 4^2$$

$$25 = 9 + 16$$



## Siapakah Pythagoras?

Pythagoras adalah ilmuwan asal Yunani yang hidup sekitar 5 abad sebelum masehi. Pada saat itu orang-orang sudah menggunakan "perhitungan ajaib" tersebut khususnya pada bidang arsitektur. Namun dialah yang pertama kali membuktikannya secara matematis, sehingga formula ini hingga kini dikenal sebagai Teorema Pythagoras.



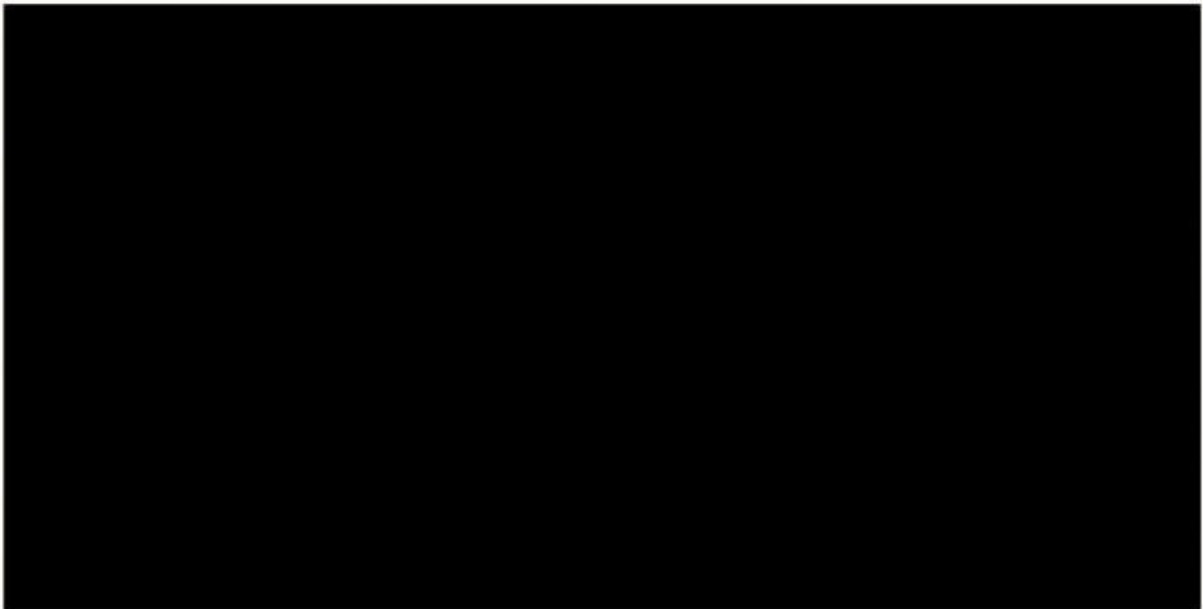


# Teorema Pythagoras



## Materi Teorema Pythagoras

Tontonlah video di bawah ini!





# Teorema Pythagoras



| Tipe | a | b | $a^2 - b^2$ | 2ab | $a^2 + b^2$ | Tripel Pythagoras | $\times 2$ | $\times 3$   | $\times 4$   | $\times 5$    |
|------|---|---|-------------|-----|-------------|-------------------|------------|--------------|--------------|---------------|
| I    | 2 | 1 | 3           | 4   | 5           | 3, 4, 5           | 6, 8, 10   | 9, 12, 15    | 12, 15, 20   | 15, 20, 25    |
| II   | 3 | 2 | 5           | 12  | 13          | 5, 12, 13         | 10, 24, 26 | 15, 36, 39   | 20, 48, 52   | 25, 60, 65    |
|      | 3 | 1 | 8           | 6   | 10          | 8, 6, 10          | 16, 12, 20 | 24, 18, 30   | 32, 24, 40   | 40, 30, 50    |
| III  | 4 | 3 | 7           | 24  | 25          | 7, 24, 25         | 14, 48, 50 | 21, 72, 75   | 28, 96, 100  | 35, 120, 125  |
|      | 4 | 2 | 12          | 16  | 20          | 12, 16, 20        | 24, 32, 40 | 36, 48, 60   | 48, 64, 80   | 60, 80, 100   |
|      | 4 | 1 | 15          | 8   | 17          | 8, 15, 17         | 16, 30, 34 | 24, 45, 51   | 32, 60, 68   | 40, 75, 85    |
| IV   | 5 | 4 | 9           | 40  | 41          | 9, 40, 41         | 18, 80, 82 | 27, 120, 123 | 36, 160, 164 | 45, 200, 205  |
|      | 5 | 3 | 16          | 30  | 34          | 16, 30, 34        | 32, 60, 64 | 48, 90, 102  | 64, 120, 136 | 80, 150, 170  |
|      | 5 | 2 | 21          | 20  | 29          | 21, 20, 29        | 42, 40, 58 | 63, 60, 87   | 84, 160, 232 | 210, 200, 290 |
|      | 5 | 1 | 24          | 10  | 26          | 24, 10, 26        | 48, 20, 52 | 72, 30, 78   | 96, 40, 104  | 120, 50, 130  |

## Tripel Pythagoras

Tripel pythagoras adalah bilangan-bilangan yang membentuk segitiga siku-siku. Bilangan tersebut juga berlaku kelipatan.



## Pembuktian Teorema Pythagoras

Teorema Pythagoras.

Luas ABCD =  $L_I + L_{II} + L_{III} + L_{IV} + L_{KLMN}$

$(a+b)(a+b) = 4 \cdot \frac{1}{2} a \cdot b + c^2$

$a^2 + ab + ab + b^2 = 2ab + c^2$

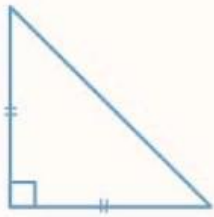
$a^2 + \cancel{2ab} + b^2 = \cancel{2ab} + c^2$

$a^2 + b^2 = c^2$

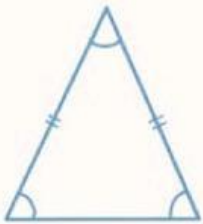
$a^2 + b^2 = c^2$



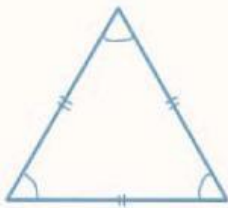
## Pasangkan jenis-jenis segitiga di bawah ini !



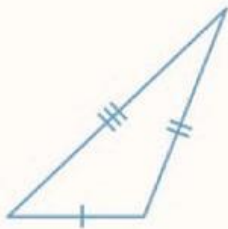
• segitiga sama sisi



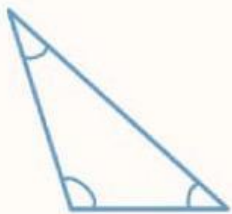
• segitiga lancip



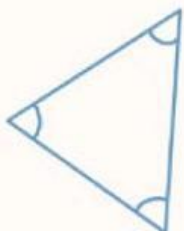
• segitiga siku-siku



• segitiga tumpul



• segitiga sama kaki



• segitiga sembarang

beri tanda ceklis pada beberapa jawaban yang benar !

*multiple choice*

## Rumus Teorema Pythagoras adalah...

☐  $a^2 = b^2 + c^2$

☐  $a^2 = b^2 - c^2$

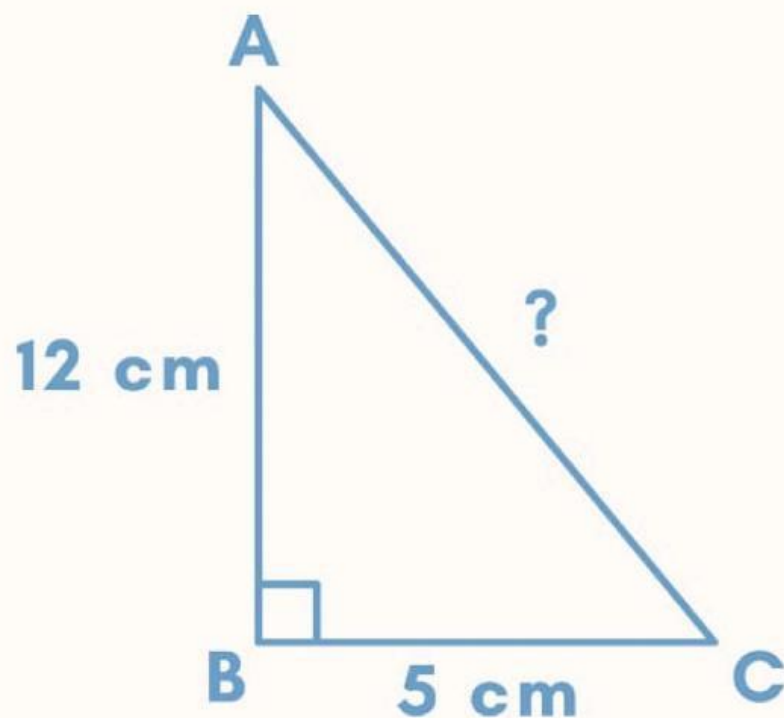
☐  $a^2 = c^2 - b^2$

☐  $b^2 = c^2 - a^2$

☐  $c^2 = b^2 - a^2$

☐  $c^2 = a^2 + b^2$

Isilah titik-titik di bawah ini !



$$AC^2 = AB^2 + BC^2$$

$$AC^2 = \dots^2 + \dots^2$$

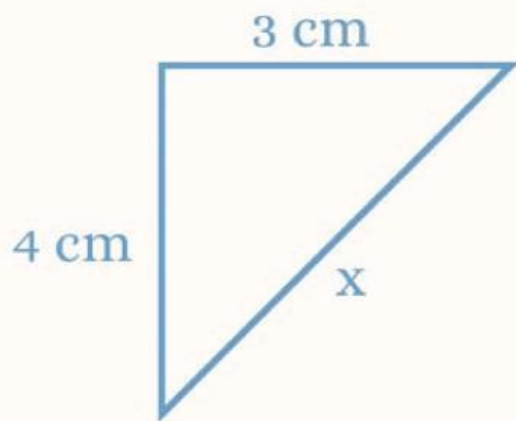
$$AC^2 = \dots + \dots$$

$$AC^2 = \dots$$

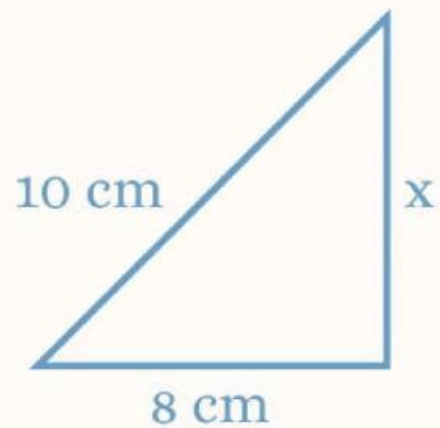
$$AC = \sqrt{\dots}$$

$$AC = \dots$$

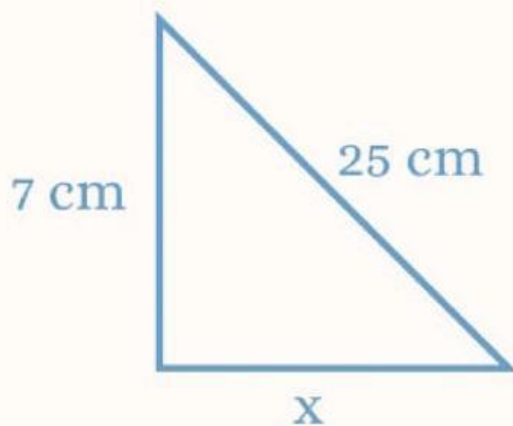
Cari x yang sesuai !



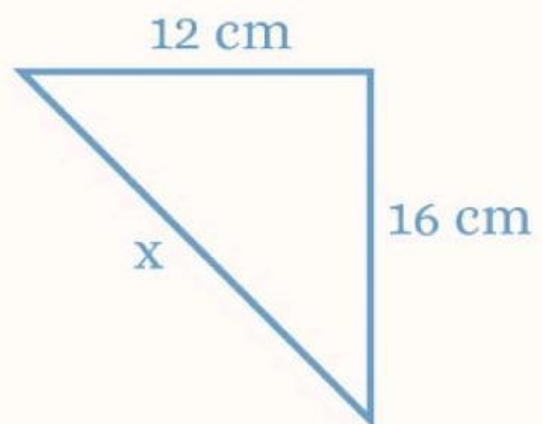
answer = \_\_\_\_ cm



answer = \_\_\_\_ cm



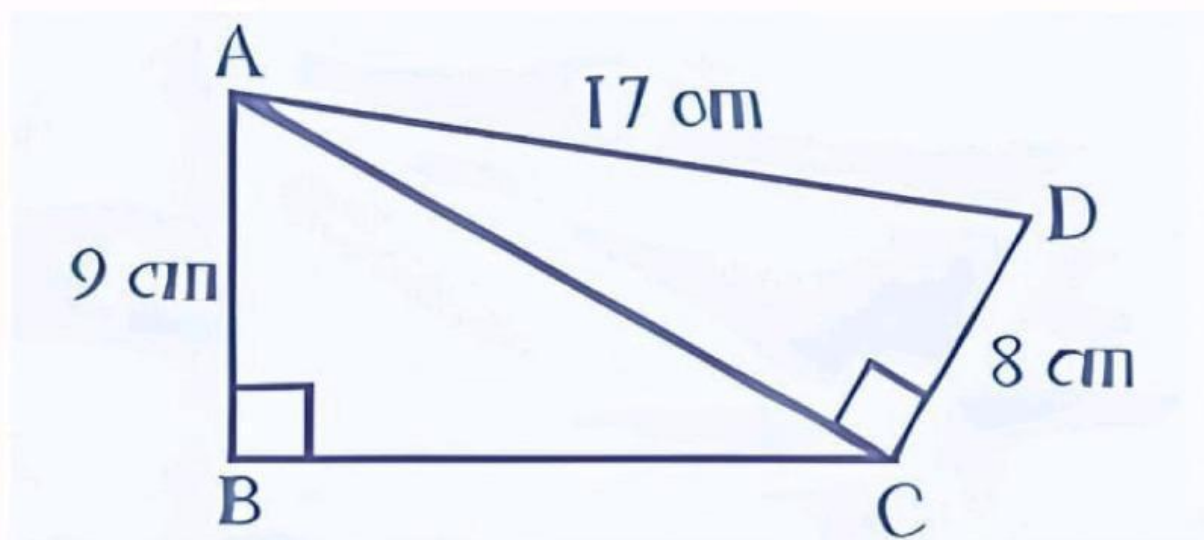
answer = \_\_\_\_ cm



answer = \_\_\_\_ cm

Pilihlah jawaban yang tepat !

single choice



Panjang BC adalah ... cm

10

12

15

21

masukkan kotak angka<sup>2</sup> ke dalam tabel yang sesuai !

*drag and drop*

3, 4, 5

13, 15, 20

15, 36, 39

8, 17, 21

14, 48, 50

33, 72, 78

Triple Pythagoras

Bukan  
Triple Pythagoras