



haust 2020

STÆF2RH05 - fjarnám

Verkefni 2 3

Nafn: _____

Eink. _____

Sýndu útreikninga við öll dæmi.

1. (30%) Í príh. ABC er: $C = 90^\circ$, $h_c = 4$ og $a = 5$
Finndu lengdirnar: BH_c , b og c

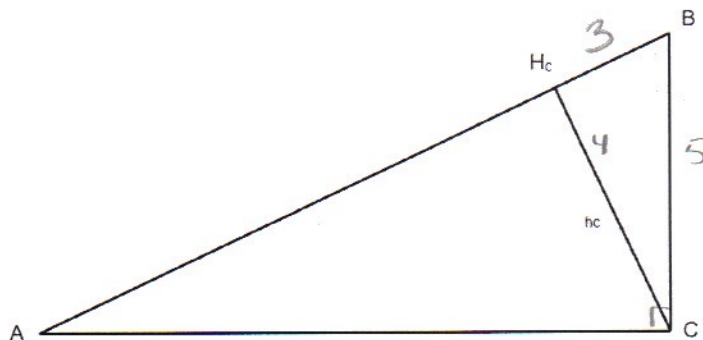
$$BH_c^2 + h_c^2 = a^2$$

$$BH_c^2 + 4^2 = 5^2$$

$$BH_c^2 = 5^2 - 4^2$$

$$BH_c^2 = 9$$

$$BH_c = \sqrt{9} = \underline{\underline{3}} \quad 10\%$$



$$\frac{BC}{c} = \frac{BH_c}{a}$$

$$\frac{5}{c} = \frac{3}{5}$$

$$c \cdot 3 = 5 \cdot 5$$

$$\frac{c \cdot 3}{3} = \frac{25}{3}$$

$$\underline{\underline{c = 8,33}} \quad 10\%$$

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

$$5^2 + b^2 = 8,33^2$$

$$b^2 = 8,33^2 - 5^2$$

$$b^2 = 44,44$$

$$b = \sqrt{44,44} = \underline{\underline{6,67}} \quad 10\%$$

2. (30%) Hér til hliðar eru þrír rétthyrndir þríhyrningar.

Hliðin $AB = 8$, $AC = 6$, $BD = 5$ og $CE = 6$.

Finndu:

a. Hliðina CB .

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

$$6^2 + 8^2 = c^2$$

$$c^2 = 100$$

$$CB = c = \sqrt{100} = 10 \quad 15\%$$

$$BE = 10 - 6 = 4$$

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

$$a^2 + 4^2 = 5^2$$

$$a^2 = 5^2 - 4^2 = 9$$

$$a = \sqrt{9} = 3$$

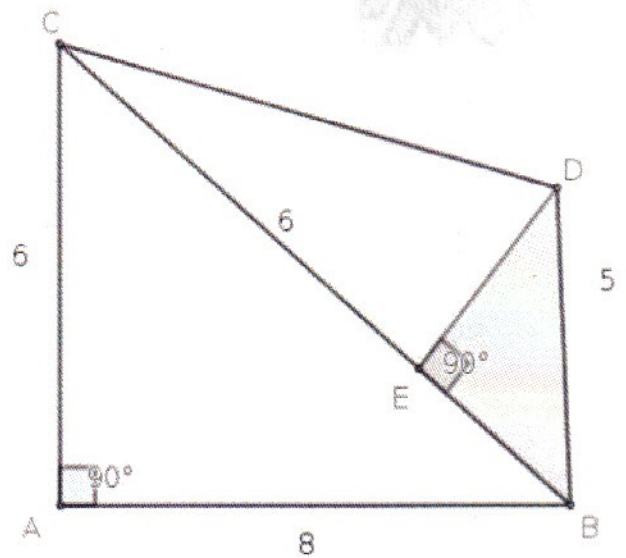
b. Hliðina CD .

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

$$3^2 + 6^2 = c^2$$

$$c^2 = 45$$

$$c = \sqrt{45} = 6,71 \quad 15\%$$



3. (15%) Finndu hliðina a.

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

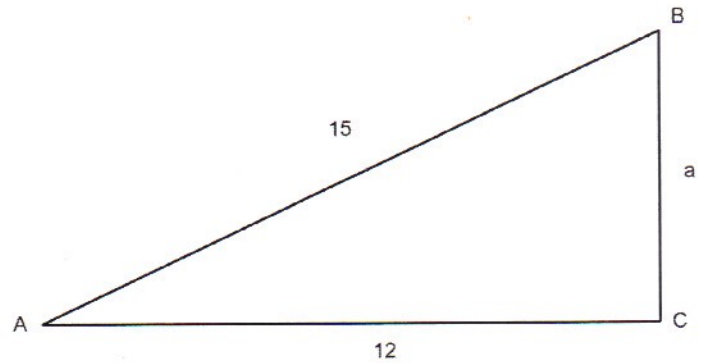
$$a^2 + 12^2 = 15^2$$

$$a^2 = 15^2 - 12^2$$

$$a^2 = 81$$

$$a = \sqrt{81} = \underline{\underline{9}}$$

15%



4. (25%) Finndu:

a) hornalínuna BD

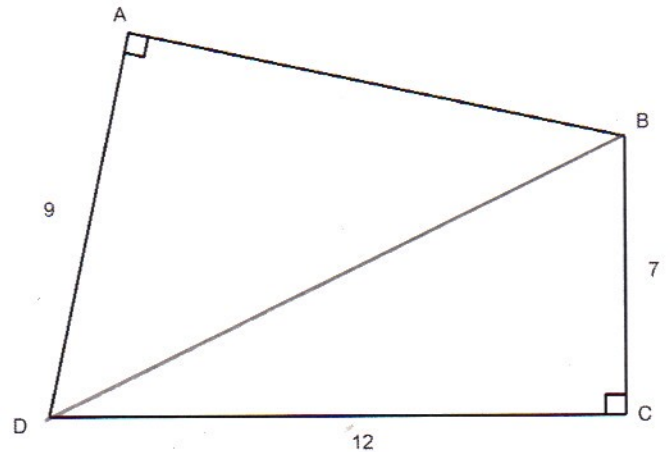
$$a^2 + b^2 = c^2$$

$$7^2 + 12^2 = BD^2$$

$$BD^2 = 193$$

$$BD = \sqrt{193} = \underline{\underline{13,89}}$$

15%



b) hliðina AB

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

$$9^2 + AB^2 = 13,89^2$$

$$AB^2 = 13,89^2 - 9^2$$

$$AB^2 = 111,93$$

$$AB = \sqrt{111,93} = \underline{\underline{10,58}}$$

10%