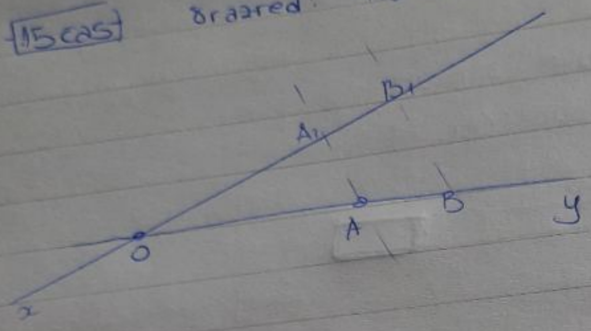
15 čas   Gradivo: Primena sličnosti   25.09.2020



$\frac{OA}{OB} = \frac{OA_1}{OB_1}$ $\frac{OA_1}{OB_1} = \frac{AB}{A_1B_1}$

~~$\frac{OB}{OA} = \frac{OB_1}{...}$~~ $\frac{OA}{OB} = \frac{AA_1}{BB_1}$

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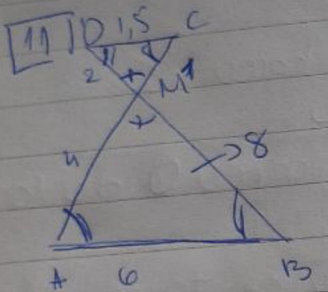


$\Delta ABM \sim \Delta MCD$

$\sphericalangle AMB = \sphericalangle DMC$ → unakrsni uglovi

$\sphericalangle ABD = \sphericalangle BDC$ → uglovi s paralelnim kracima

$\sphericalangle ACD = \sphericalangle BAC$

$\frac{AB}{DC} = \frac{BM}{DM} = \frac{AM}{MC} = k$

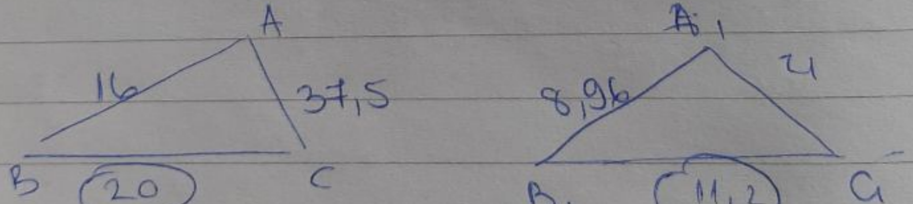
$\frac{6}{1{,}5} = \frac{60}{15} = 4 = \frac{BM}{2} = \frac{4}{MC}$

$BM = 2 \cdot 4 = 8$

$4MC = 4 \Rightarrow MC = 1$

15 $a = 20$ $c = 16$ $b_1 = 21$ $c_1 = 11{,}2$

b ? $a_1 = ?$



$20 : 11{,}2 = 16 : A_1B_1$

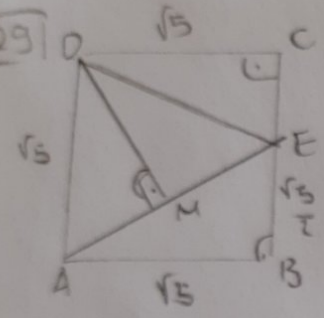
$A_1B_1 = \frac{16 \cdot 11{,}2}{20} = 8{,}96$

$20 : 11{,}2 = AC : 21$

$AC = \frac{20 \cdot 21}{11{,}2} = 37{,}5$

8. razred

29



AE dobijamo iz Pitagorine teoreme

$$AE^2 = (\sqrt{5})^2 + \left(\frac{\sqrt{5}}{2}\right)^2 = 5 + \frac{5}{4} = \frac{25}{4}$$

$$\boxed{AE = \frac{5}{2}}$$

$$P_{\triangle ABE} = \frac{1}{2}\sqrt{5} \cdot \frac{\sqrt{5}}{2} = \frac{5}{4}$$

$$P_{\triangle DCE} = P_{\triangle ABE} = \frac{5}{4}$$

$$P_{\triangle ADE} = P_{\square} - 2P_{\triangle ABE} = (\sqrt{5})^2 - 2 \cdot \frac{5}{4} = 5 - \frac{5}{2} = \frac{5}{2}$$

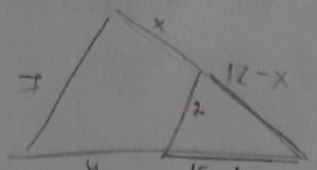
$$P_{\triangle ADE} = \frac{1}{2} \cdot AE \cdot DM = \frac{5}{2}$$

$$\frac{1}{2} \cdot \frac{5}{2} \cdot DM = \frac{5}{2} \quad / \cdot 4$$

$$5DM = 10$$

$$\boxed{DM = 2}$$

(28)



$x+7+y+z=26$

$x+y+z=19$

$(12-x):(15-y)=12:15$

$x+y+z+7=26$

$x+y+z=19$

$7:z = 12:(12-x)$

$7:7 = 15:(15-y)$

$12z = 7(12-x) = 84-7x$

$15z = 7(15-y) = 105-7y$

$12:(12-x) = 15:(15-y)$

$180-15x = 180-12y$

$5x = 4y$

$x = \frac{4}{5}y$

$12z = 84 - 7\cdot\frac{4}{5}y \;/\cdot 5 \Rightarrow 60z = 420 - 28y$

$15z = 105 - 7y$

$15z = 105 - 7y$

$z = \frac{105-7y}{15} = 7 - \frac{7}{15}y$

$x+y+z = 19$

$x+y+z = \frac{4}{5}y + y + 7 - \frac{7}{15}y$

$\frac{12}{15}y + \frac{15}{15}y - \frac{7}{15}y + 7 = 19$

$\frac{20}{15}y = 19-7 \Rightarrow \frac{4}{3}y = 12$

$y = 9$

$x = \frac{36}{5}$

$z = 7 - \frac{7}{15}\cdot 9^{3} = 7 - \frac{21}{5} = \frac{14}{5}$

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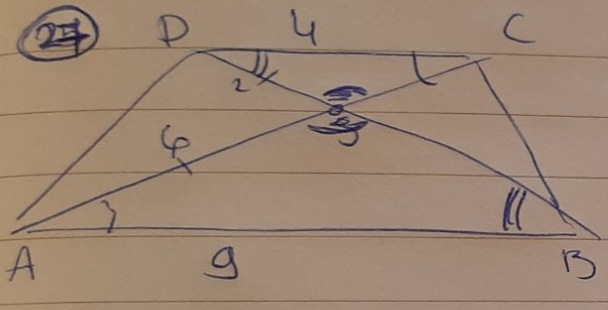

$\Delta ABS \sim \Delta DSC$ (UUU)

$k = \frac{9}{4} = \frac{6}{CS} = \frac{BS}{2}$

$\frac{9}{4} = \frac{6}{CS}$

$9CS = 24$ $\quad \boxed{CS = \frac{8}{3}}$

$\frac{9}{24} = \frac{BS}{2}$ $\quad \boxed{BS = \frac{9}{2}}$