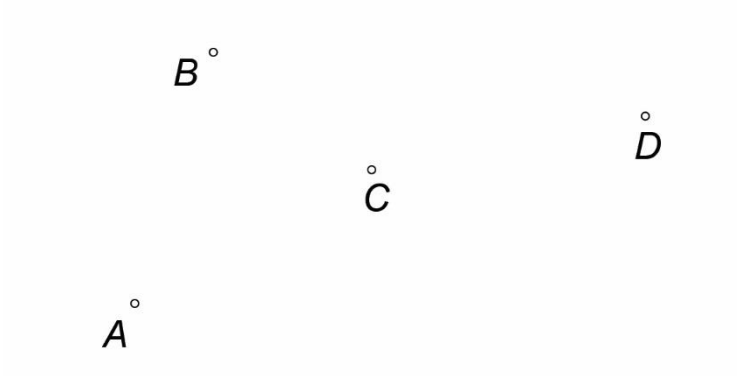
(Zbrajanje i oduzimanje vektora)

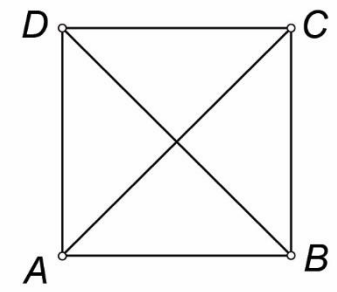
1. Zadane su točke *A*, *B*, *C* i *D*. Nacrtaj vektore $\overrightarrow{AB}$ i $\overrightarrow{CD}$ i izmjeri njihovu duljinu.



$\left|\overrightarrow{AB}\right| =$ _____ mm

$\left|\overrightarrow{CD}\right| =$ _____ mm

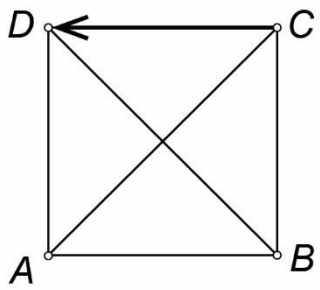
2. Istakni i imenuj tri vektora određena vrhovima kvadrata *ABCD* koji počinju u točki *C*.



U točki *C* počinju vektori:

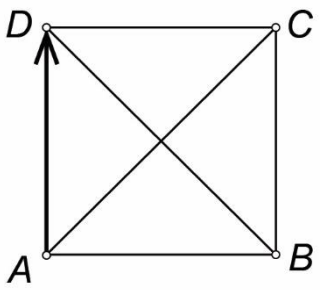
_____ , _____ i _____ .

3. **a)** Na slici kvadrata *ABCD* istakni i imenuj vektor koji je jednak vektoru $\overrightarrow{CD}$.



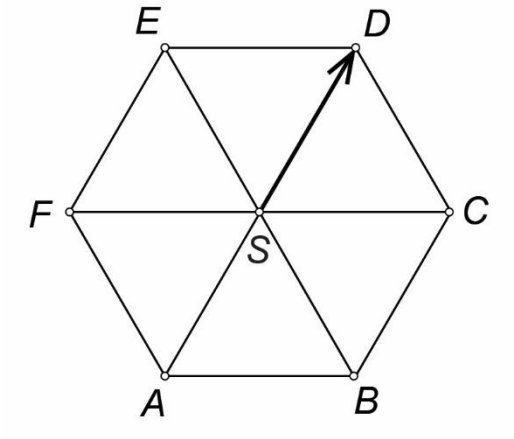
$\overrightarrow{CD} =$ _____

b) Na slici kvadrata *ABCD* istakni i imenuj vektor koji je jednak vektoru $\overrightarrow{AD}$.



$\overrightarrow{AD} =$ _____

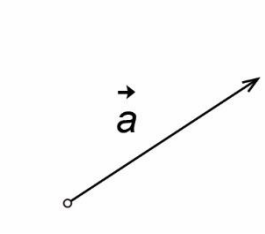
4. Na slici pravilnog šesterokuta *ABCDEF* istakni i imenuj tri vektora koji su jednaki vektoru $\overrightarrow{SD}$.



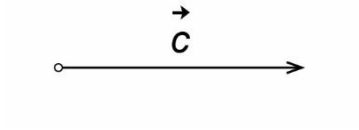
Vektori jednaki vektoru $\overrightarrow{SD}$ jesu:

_____ , _____ i _____ .

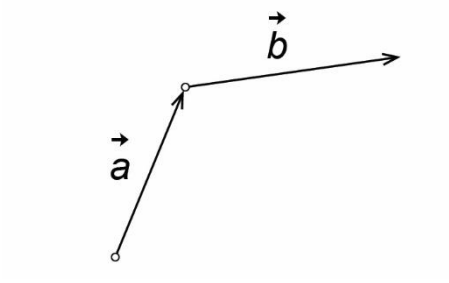
5. **a)** Nacrtaj vektor $\vec{b}$ jednak vektoru $\vec{a}$.



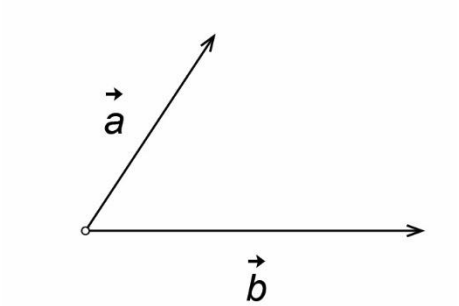
b) Nacrtaj vektor $\vec{d}$ suprotan vektoru $\vec{c}$.



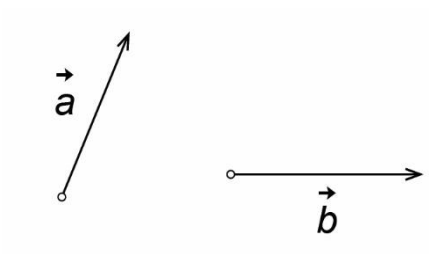
6. **a)** Odredi $\vec{a}+\vec{b}$ po pravilu trokuta.



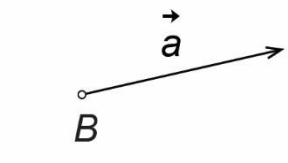
b) Odredi $\vec{a}+\vec{b}$ po pravilu paralelograma.



7. **a)** Odredi $\vec{a} + \vec{b}$.

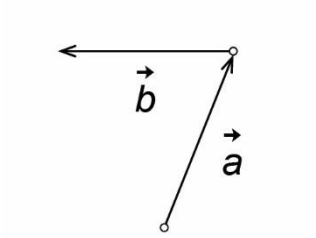


b) Nacrtaj vektor $-\vec{a}$ s početnom točkom B.



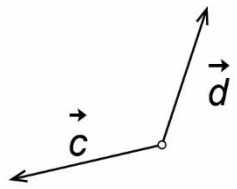
8. **a)** Odredi $\vec{a} - \vec{b}$.

Uputa: prvo nacrtaj vektor $-\vec{b}$, a zatim odredi $\vec{a} + (-\vec{b})$.

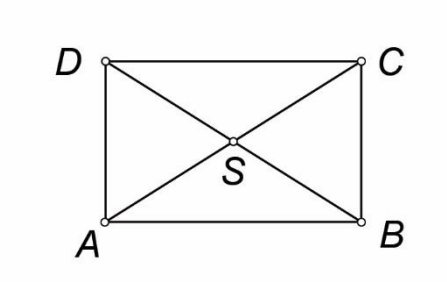


b) Odredi $\vec{c} - \vec{d}$.

Uputa: prvo nacrtaj vektor $-\vec{d}$, a zatim odredi $\vec{c} + (-\vec{d})$ po pravilu paralelograma.



9. Nacrtan je pravokutnik *ABCD* kojemu je sjecište dijagonala točka *S*.



Odredi vektor:

a) $\overrightarrow{AB} + \overrightarrow{BC} =$ _____

b) $\overrightarrow{AS} + \overrightarrow{SB} =$ _____

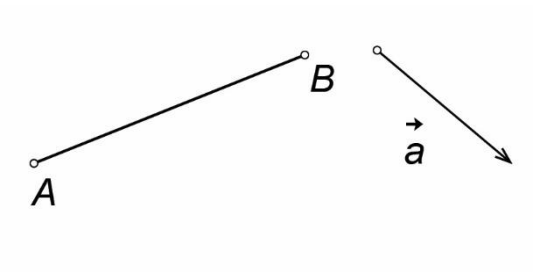
c) $\overrightarrow{AC} + \overrightarrow{BA} = \overrightarrow{AC} + \overrightarrow{C\_} =$ _____

d) $\overrightarrow{SA} - \overrightarrow{DA} = \overrightarrow{SA} +$ _____ = _____.

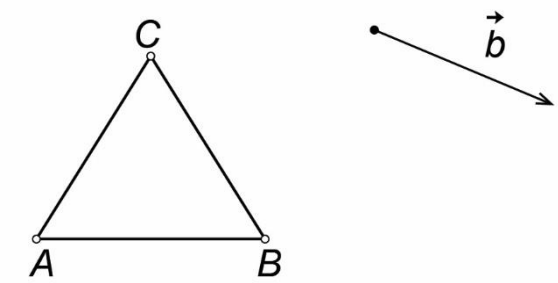
(Translacija i osna simetrija)

1. Translatiraj za zadani vektor.

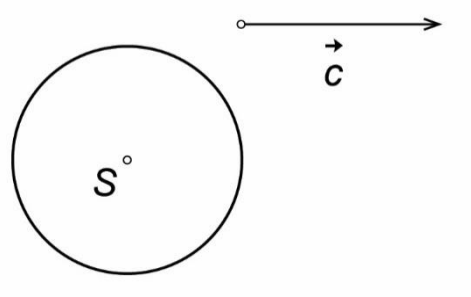
a) dužinu $\overline{AB}$ za vektor $\vec{a}$



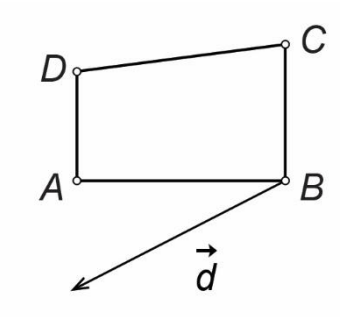
b) trokut *ABC* za vektor $\vec{b}$



c) kružnicu za vektor $\vec{c}$

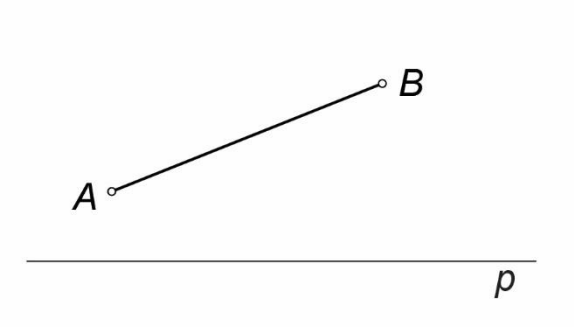


d) četverokut *ABCD* za vektor $\vec{d}$

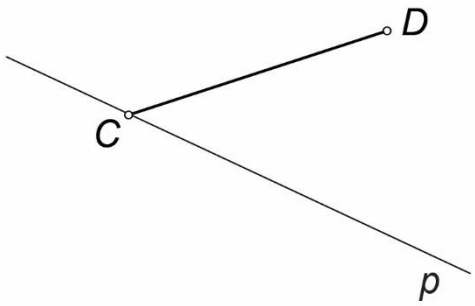


2. Odredi osnosimetričnu sliku s obzirom na pravac *p*.

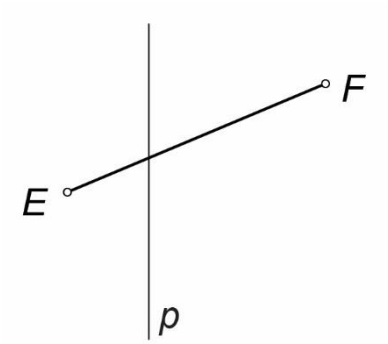
a) dužine $\overline{AB}$



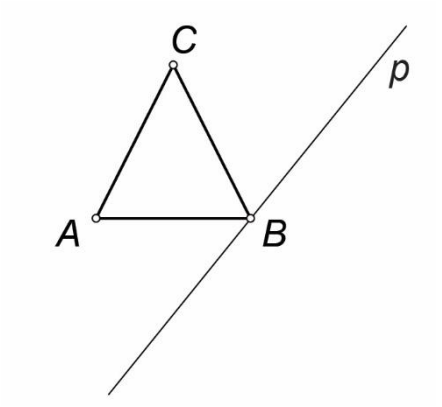
b) dužine $\overline{CD}$



c) dužine $\overline{EF}$



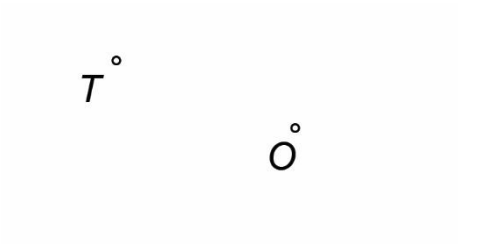
d) trokuta *ABC*



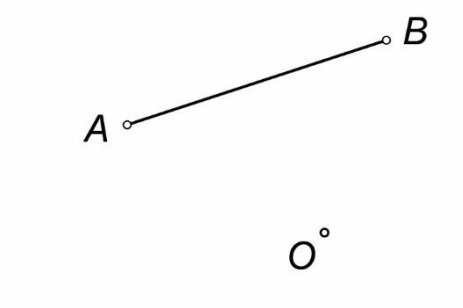
(Centralna simetrija i rotacija)

1. Odredi centralnosimetričnu sliku s obzirom na točku *O*.

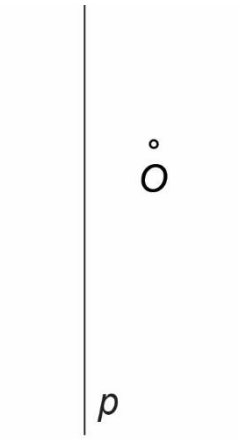
a) točke *T*



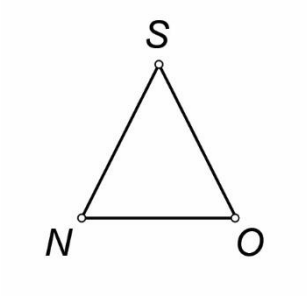
b) dužine $\overline{AB}$



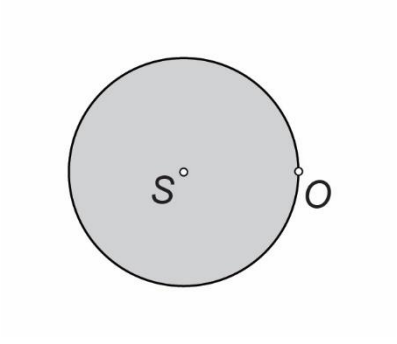
c) pravca *p*



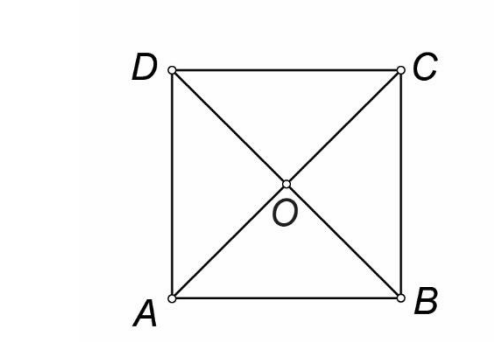
d) trokuta *NOS*



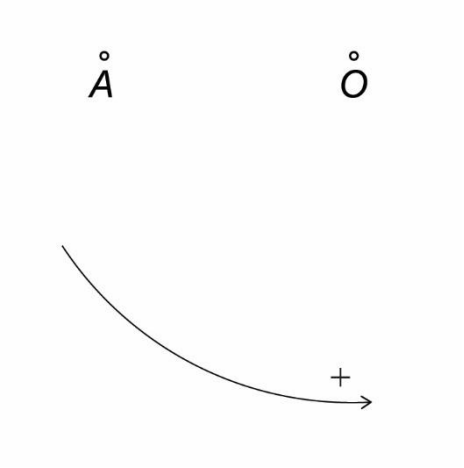
e) kruga



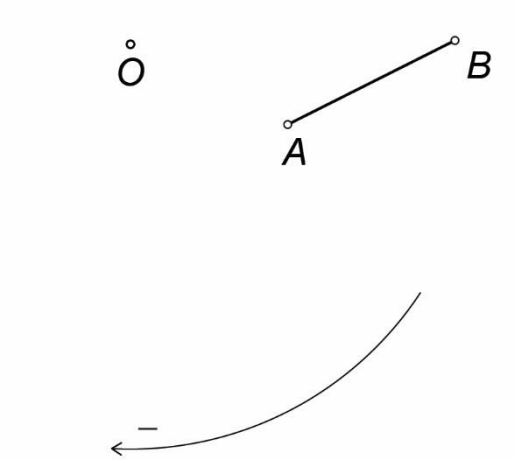
f) kvadrata *ABCD* kojemu je točka *O* sjecište dijagonala



2. **a)** Rotiraj točku A oko točke O za 60°.



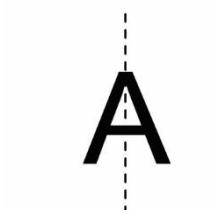
b) Rotiraj dužinu $\overline{AB}$ oko točke O za −60°.



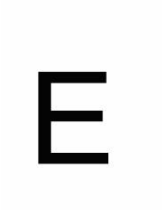
(Osnosimetrični i centralnosimetrični likovi. Rotacija)

1. Prikazanim osnosimetričnim likovima nacrtaj osi simetrije kao u primjeru **a)**. Oprez, neki likovi imaju više osi simetrije.

a)



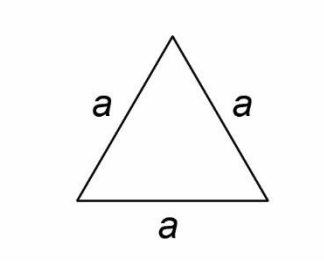
b)



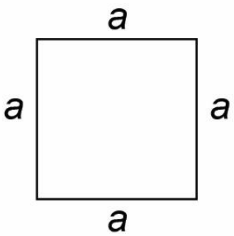
c)

d)

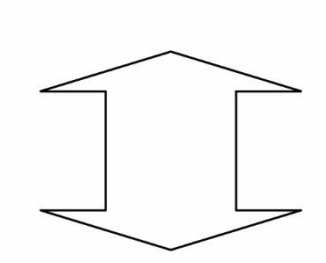
e)



f)

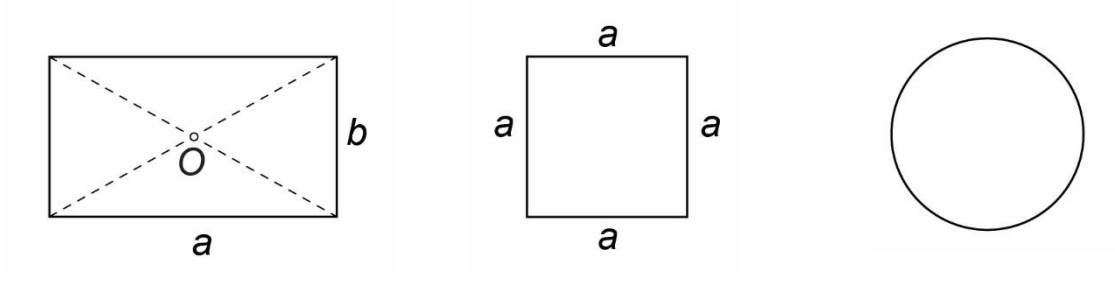


g)



2. Nacrtanim centralnosimetričnim likovima nacrtaj centar simetrije točku *O*. Podzadatak **a)** je riješen.

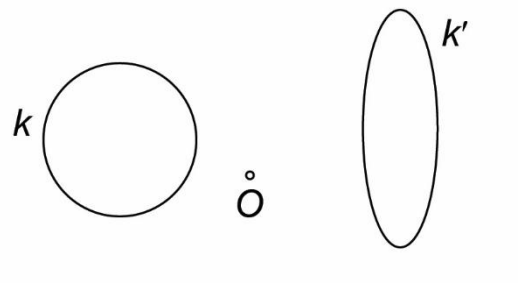
a) pravokutnik **b)** kvadrat **c)** krug



3. Zaokruži točan odgovor kako je učinjeno u primjeru **a)**.

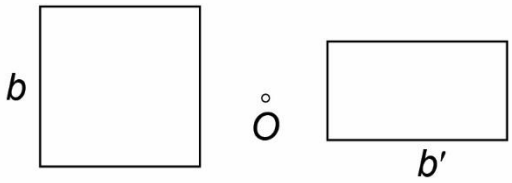
a) Je li lik *k′* nastao rotacijom lika *k* oko točke *O* ?

Da / Ne



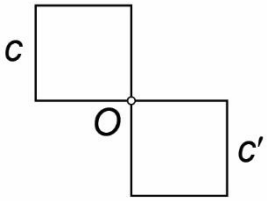
b) Je li lik *b′* nastao rotacijom lika *b* oko točke *O* ?

Da / Ne



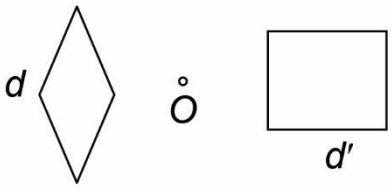
c) Je li lik *c′* nastao rotacijom lika *c* oko točke *O* ?

Da / Ne



d) Je li lik *d′* nastao rotacijom lika *d* oko točke *O* ?

Da / Ne



(Ponavljanje nastavnih sadržaja 8. razreda)

1. Izračunaj na najbrži način.

a) $10 + 37 - 7 \cdot 5 =$

b) $60 : 6 - 6 =$

c) $25 \cdot 11 + 25 \cdot 89 =$

2. Kvadriraj.

a) $5^2 =$ **b)** $(-5)^2 =$ **c)** $\left(\frac{2}{3}\right)^2 =$

d) $\left(-\frac{3}{4}\right)^2 =$ **e)** $0.3^2 =$

3. Napiši u obliku potencije s bazom 10.

a) $10 \cdot 10 =$ **b)** $10 \cdot 10 \cdot 10 \cdot 10 =$

c) $1 =$ **d)** $\frac{1}{10^3} =$ **e)** $\frac{1}{100} =$

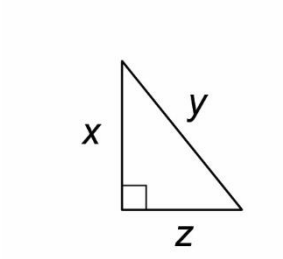
4. Korjenuj.

a) $\sqrt{9} =$ **b)** $\sqrt{25} =$ **c)** $\sqrt{0} =$

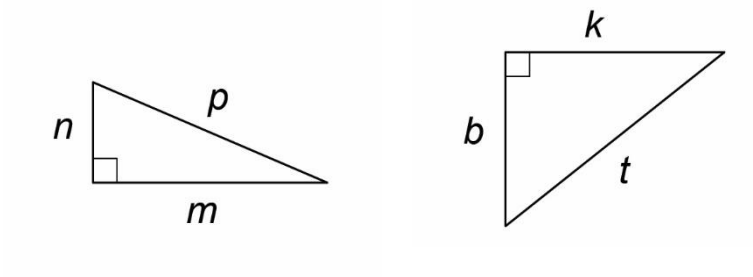
d) $\sqrt{\frac{16}{25}} =$ **e)** $\sqrt{\frac{25}{64}} =$

5. Zapiši ispod crteža formulu Pitagorina poučka za trokut na slici.

a)



b)



c)

6. Izračunaj duljinu nepoznate katete pravokutnog trokuta ako je duljina druge katete 8 cm i hipotenuze 10 cm.

7. **a)** Izračunaj opseg, površinu i duljinu dijagonale kvadrata sa stranicom duljine $a = 4$ cm.

b) Izračunaj opseg, površinu i duljinu dijagonale pravokutnika sa stranicama duljina $a = 3$ cm i $b = 4$ cm.

8. Skiciraj (bez upotrebe geometrijskog pribora) geometrijska tijela.

Na skici slovima označi duljine osnovnih bridova i visine.

a) kocku (a)

b) kvadar (a, b, c)

c) pravilnu četverostranu piramidu (a, b, h, v)

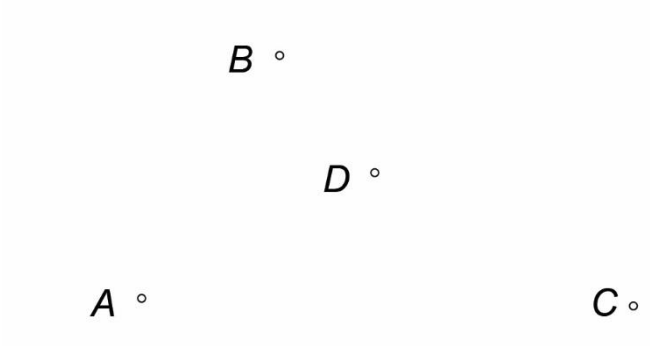
d) valjak (r, h)

9. Konstruiraj:

a) kružnicu radijusa 2 cm

b) krug promjera 5 cm.

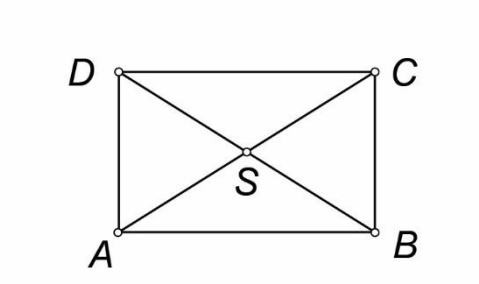
10. Zadane su točke *A*, *B*, *C* i *D*. Nacrtaj vektore $\overrightarrow{AB}$ i $\overrightarrow{CD}$ i izmjeri njihovu duljinu.



$\left|\overrightarrow{AB}\right| =$ _____ mm

$\left|\overrightarrow{CD}\right| =$ _____ mm

11. Nacrtan je pravokutnik *ABCD* kojemu je sjecište dijagonala točka *S*.



Odredi vektor.

a) $\overrightarrow{AB} + \overrightarrow{BC} =$ _____

b) $\overrightarrow{AS} + \overrightarrow{DS} = \overrightarrow{AS} + \overrightarrow{S\_} =$ _____

12. Napiši svoje ime velikim tiskanim slovima i zaokruži ona slova koja su osnosimetrična, a zatim tim slovima skiciraj barem jednu os simetrije.

Primjer: