

```
> n := 7;
```

```
n := 7
```

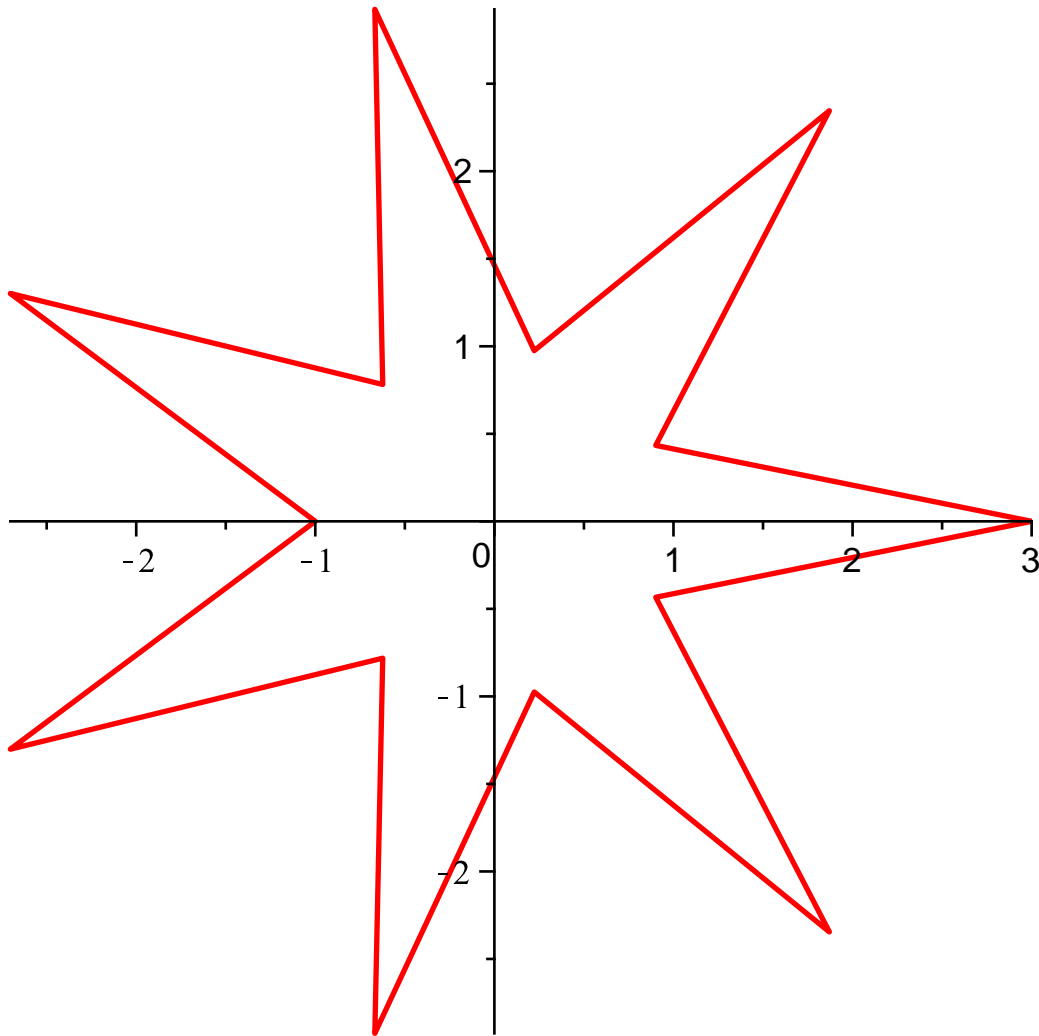
(1)

```
> xy:=seq([(2+(-1)^k)*cos((2*Pi/(2*n))*k),(2+(-1)^k)*sin((2*Pi/(2*n))*k)],k=0..2*n);
```

```
xy := [3, 0], [cos(1/7 pi), sin(1/7 pi)], [3 cos(2/7 pi), 3 sin(2/7 pi)], [cos(3/7 pi),  
sin(3/7 pi)], [-3 cos(3/7 pi), 3 sin(3/7 pi)], [-cos(2/7 pi), sin(2/7 pi)], [-3 cos(1/7 pi),  
3 sin(1/7 pi)], [-1, 0], [-3 cos(1/7 pi), -3 sin(1/7 pi)], [-cos(2/7 pi), -sin(2/7 pi)], [  
-3 cos(3/7 pi), -3 sin(3/7 pi)], [cos(3/7 pi), -sin(3/7 pi)], [3 cos(2/7 pi),  
-3 sin(2/7 pi)], [cos(1/7 pi), -sin(1/7 pi)], [3, 0]
```

(2)

```
> plot([xy],color=red,thickness=2);
```



```
> n := 4;
```

```
n := 4
```

(3)

```
> xy:=seq([(2+(-1)^k)*cos((2*Pi/(2*n))*k),(2+(-1)^k)*sin((2*Pi/
```

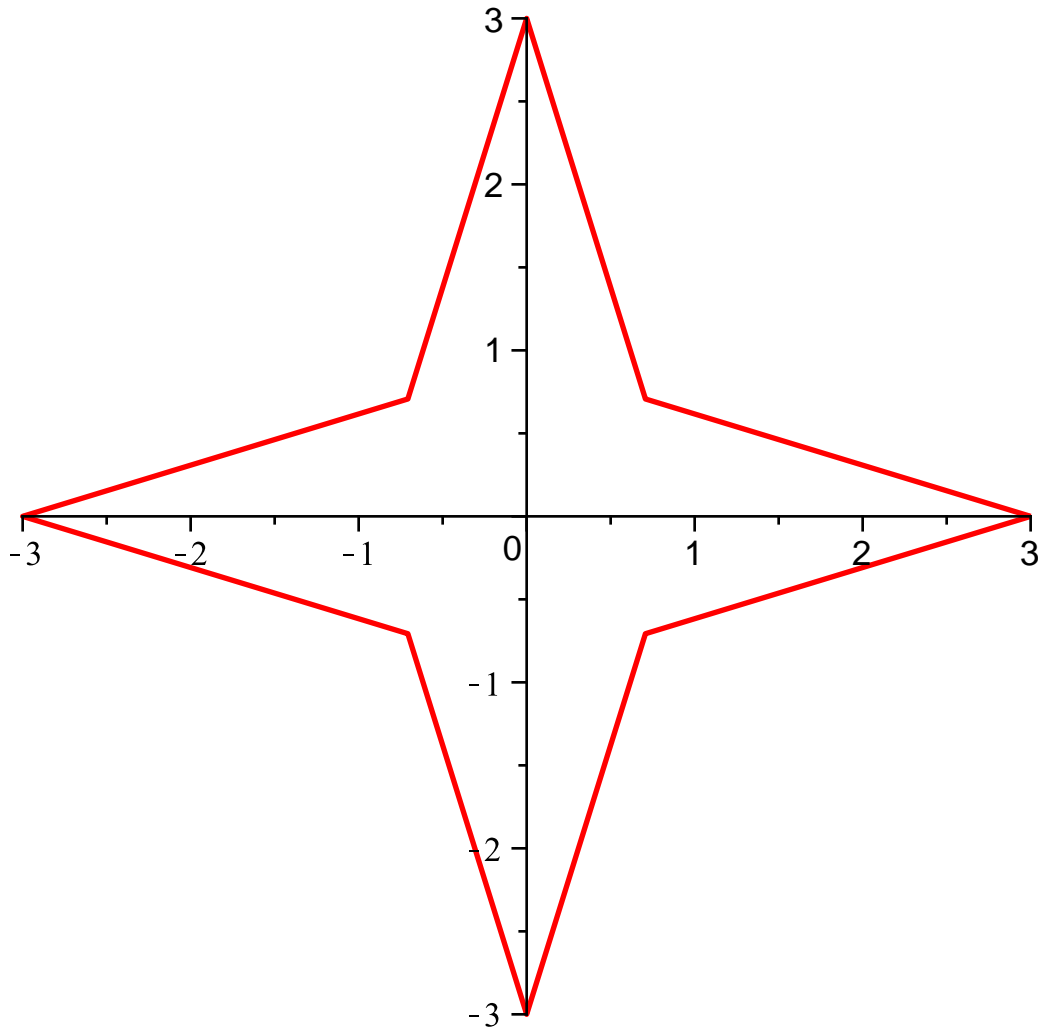
```
(2*n))*k)],k=0..2*n);
```

$$xy := [3, 0], \left[\frac{1}{2} \sqrt{2}, \frac{1}{2} \sqrt{2} \right], [0, 3], \left[-\frac{1}{2} \sqrt{2}, \frac{1}{2} \sqrt{2} \right], [-3, 0], \left[-\frac{1}{2} \sqrt{2}, -\frac{1}{2} \sqrt{2} \right],$$

$$[0, -3], \left[\frac{1}{2} \sqrt{2}, -\frac{1}{2} \sqrt{2} \right], [3, 0]$$

(4)

```
> plot([xy],color=red,thickness=2);
```



```
> n := 7;
```

$n := 7$

(5)

```
> # Loesungen mit for Schleifen sind auch okay.
```

```
> xy := [seq(k,k=0..2*n)];
```

$xy := [0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14]$

(6)

```
> for k from 0 to n-1 do
```

```
    xy[2*k+1]:= [3*cos((2*Pi/n)*k), 3*sin((2*Pi/n)*k)];
```

```
    xy[2*k+2]:= [cos((2*Pi/n)*(k+1/2)), sin((2*Pi/n)*(k+1/2))];
```

```
od:
```

```
> xy;
```

(7)

$$\begin{aligned}
 & \left[[3, 0], \left[\cos\left(\frac{1}{7}\pi\right), \sin\left(\frac{1}{7}\pi\right) \right], \left[3\cos\left(\frac{2}{7}\pi\right), 3\sin\left(\frac{2}{7}\pi\right) \right], \left[\cos\left(\frac{3}{7}\pi\right), \sin\left(\frac{3}{7}\pi\right) \right], \right. \\
 & \quad \left. -3\cos\left(\frac{3}{7}\pi\right), 3\sin\left(\frac{3}{7}\pi\right) \right], \left[-\cos\left(\frac{2}{7}\pi\right), \sin\left(\frac{2}{7}\pi\right) \right], \left[-3\cos\left(\frac{1}{7}\pi\right), 3\sin\left(\frac{1}{7}\pi\right) \right], \\
 & \quad [-1, 0], \left[-3\cos\left(\frac{1}{7}\pi\right), -3\sin\left(\frac{1}{7}\pi\right) \right], \left[-\cos\left(\frac{2}{7}\pi\right), -\sin\left(\frac{2}{7}\pi\right) \right], \left[-3\cos\left(\frac{3}{7}\pi\right), \right. \\
 & \quad \left. -3\sin\left(\frac{3}{7}\pi\right) \right], \left[\cos\left(\frac{3}{7}\pi\right), -\sin\left(\frac{3}{7}\pi\right) \right], \left[3\cos\left(\frac{2}{7}\pi\right), -3\sin\left(\frac{2}{7}\pi\right) \right], \left[\cos\left(\frac{1}{7}\pi\right), \right. \\
 & \quad \left. -\sin\left(\frac{1}{7}\pi\right) \right], 14 \right]
 \end{aligned}
 \tag{7}$$

```

> xy[2*n+1]:=xy[1];
                                xy15 := [3, 0]
> plot(xy,color=red,thickness=2);

```

