

WS - 9: Common Polar Graphs Practice

Complete the following without using your calculator. Match the polar equations with the graph below.

E 1) $r = 3 - \cos\theta$

C 2) $r = 2 - 2\sin\theta$

G 3) $r = 5\cos 3\theta$

J 4) $r = 2 + 2\cos\theta$

H 5) $r = 3 + 1.5\sin\theta$

F 6) $r = 3.5\cos 2\theta$

K 7) $r = 5\sin 3\theta$

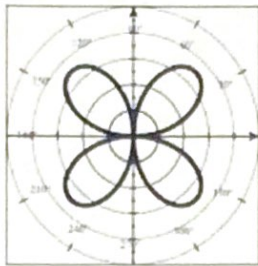
L 8) $r^2 = -16\sin 2\theta$

D 9) $r = 2 - 3\cos\theta$

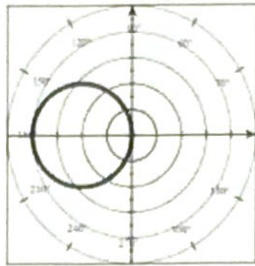
I 10) $r = 3\cos 4\theta$

B 11) $r = -4\cos\theta$

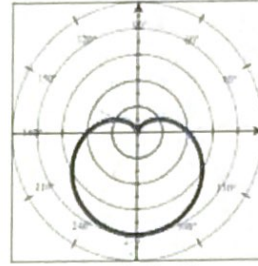
A 12) $r = 3.5\sin 2\theta$



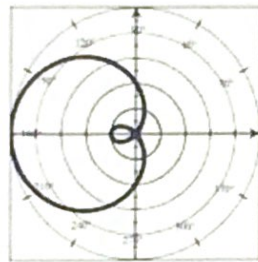
a. $3.5\sin 2\theta$



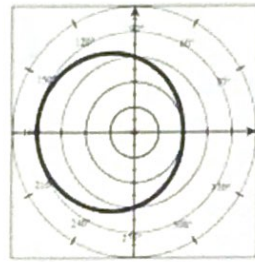
b. $-4\cos\theta$



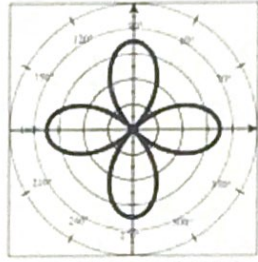
~~c.~~ $2 - 2\sin\theta$



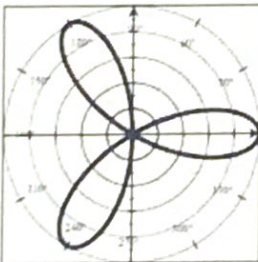
~~d.~~ $2 - 3\cos\theta$



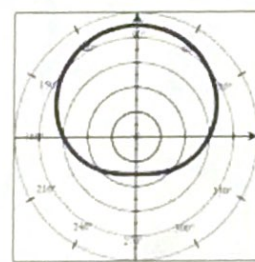
~~e.~~ $3 - \cos\theta$



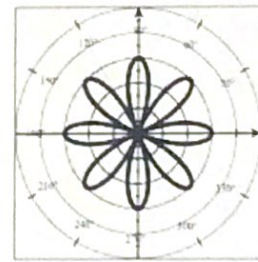
~~f.~~ $3.5\cos 2\theta$



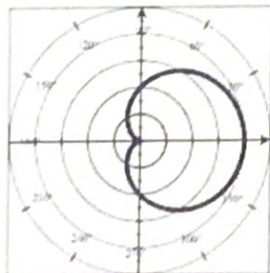
~~g.~~ $5\cos 3\theta$



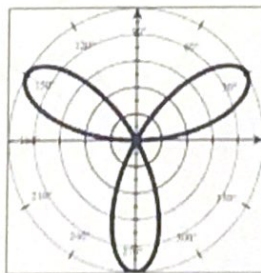
~~h.~~ $3 + 1.5\sin\theta$



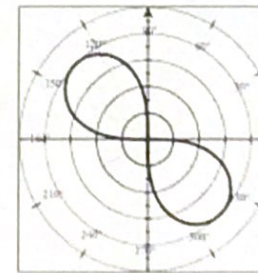
i. $3\cos 4\theta$



~~j.~~ $2 + 2\cos\theta$



k. $5\sin 3\theta$

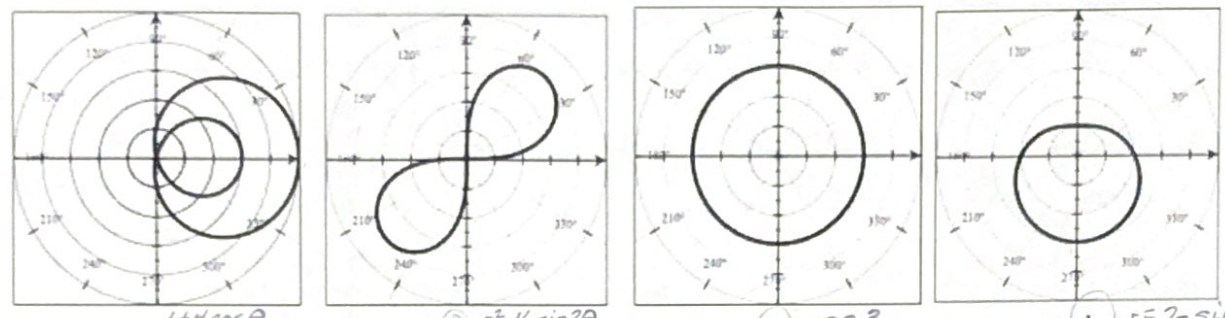


l. $r^2 = -16\sin 2\theta$
 r or $\sqrt{-16\sin 2\theta}$

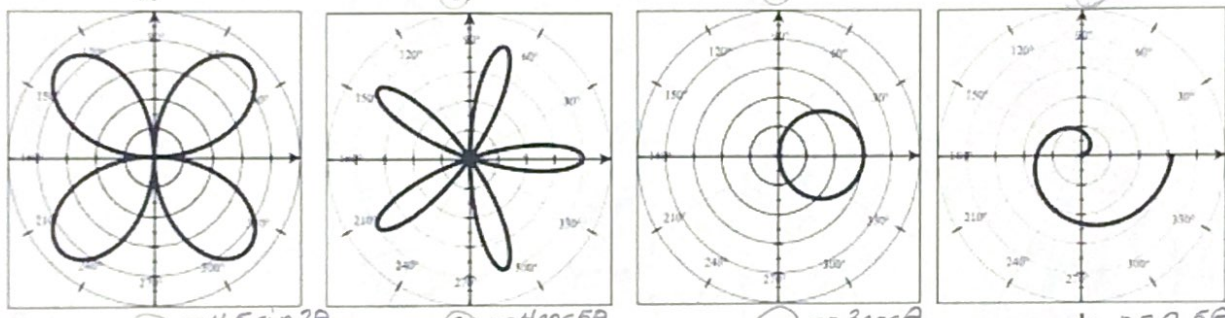
Check
w/ calc

$\frac{1.5}{1.5} = \frac{3}{3}$

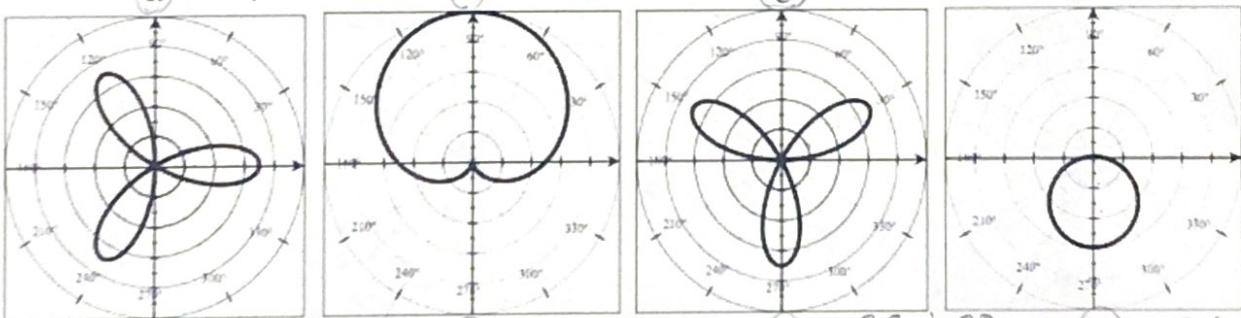
- J 1) $r = 2.5 + 2.5 \sin \theta$ C 2) $r = 3$ K 3) $r = 3.5 \sin 3\theta$ E 4) $r = 4.5 \sin 2\theta$
M 5) $r = 4.5 \cos 2\theta$ O 6) $r = 1.5 + 2 \cos \theta$ L 7) $r = -3 \sin \theta$ D 8) $r = 2 - \sin \theta$
B 9) $r^2 = 16 \sin 2\theta$ F 10) $r = 4 \cos 5\theta$ I 11) $r = 3.5 \cos 3\theta$ R 12) $r = 2.5 - 2.5 \cos \theta$
G 13) $r = 3 \cos \theta$ A 14) $r = 1 + 4 \cos \theta$ N 15) $r = 4.5 \sin 6\theta$ H 16) $r = .5\theta$



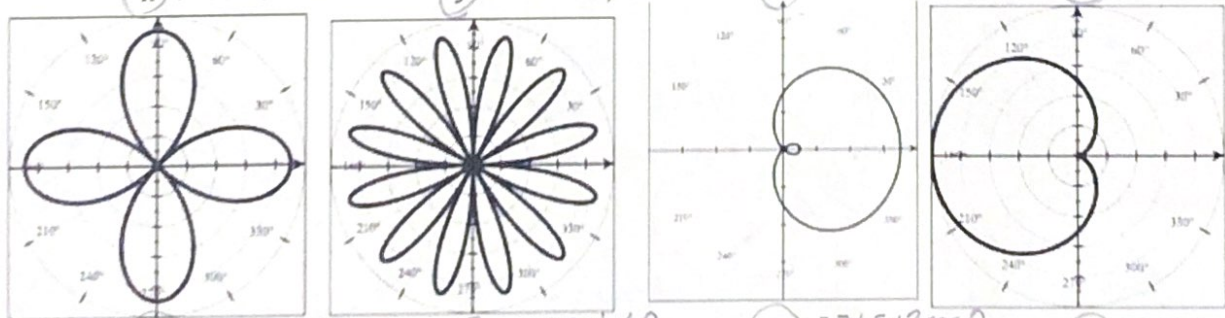
a. $r = 4 \cos \theta$ b. $r^2 = 16 \sin 2\theta$ c. $r = 3$ d. $r = 2 - \sin \theta$



e. $r = 4.5 \sin 2\theta$ f. $r = 4 \cos 5\theta$ g. $r = 3 \cos \theta$ h. $r = 0.5\theta$



i. $r = 3.5 \cos 3\theta$ j. $r = 2.5 + 2.5 \sin \theta$ k. $r = 3.5 \sin 3\theta$ l. $r = -3 \sin \theta$



m. $r = 4.5 \cos 2\theta$ n. $r = 4.5 \sin 6\theta$ o. $r = 1.5 + 2 \cos \theta$ p. $r = 2.5 - 2.5 \cos \theta$

$$\begin{aligned}
 a + b &= 3.5 \\
 a - b &= -0.5 \\
 \hline
 2a &= 3 \\
 a &= 1.5 \\
 b &= 2
 \end{aligned}$$