

# 7.4 Trigonometry short version

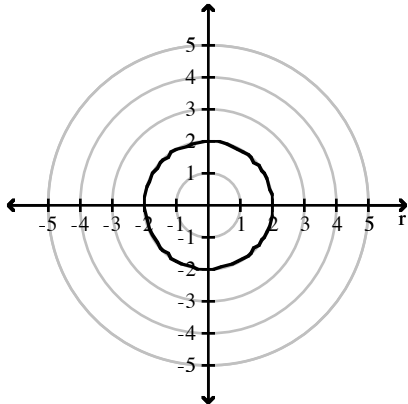
Name \_\_\_\_\_

**MULTIPLE CHOICE.** Choose the one alternative that best completes the statement or answers the question.

The graph of a polar equation is given. Select the polar equation for the graph.

1)

1) \_\_\_\_\_



A)  $r = 4 \cos \theta$

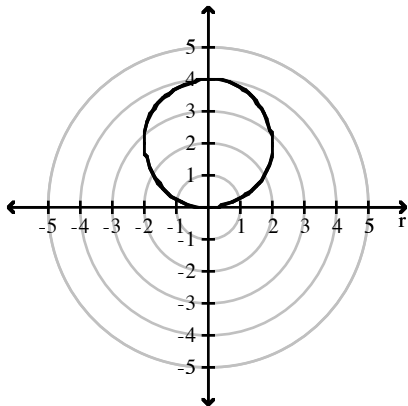
B)  $r = 2$

C)  $r \sin \theta = 2$

D)  $r = 4 \sin \theta$

2)

2) \_\_\_\_\_



A)  $r = 4 \cos \theta$

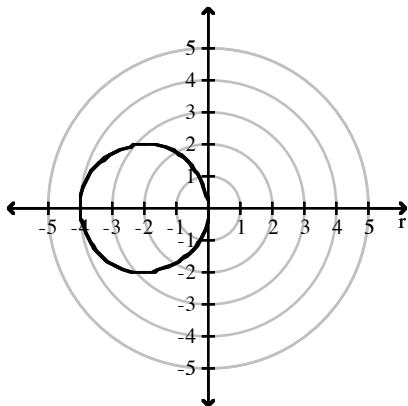
B)  $r = 2$

C)  $r = 4 \sin \theta$

D)  $r \sin \theta = 2$

3)

3) \_\_\_\_\_



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

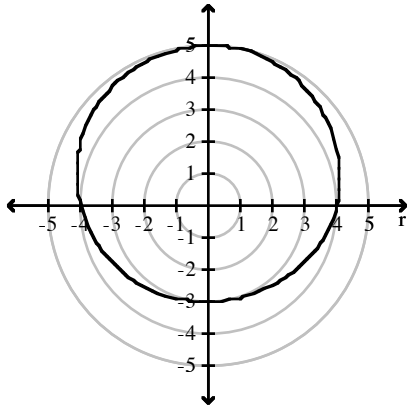
B)  $r = -2$

C)  $r = -4 \cos \theta$

D)  $r = -4 \sin \theta$

4)

4) \_\_\_\_\_



A)  $r = 4 + \cos \theta$

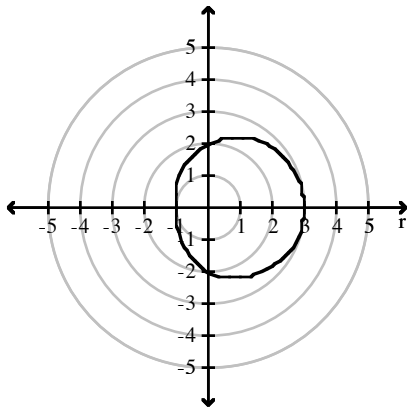
B)  $r = 8 \sin \theta$

C)  $r = 8 \cos \theta$

D)  $r = 4 + \sin \theta$

5)

5) \_\_\_\_\_



A)  $r = 4 \sin \theta$

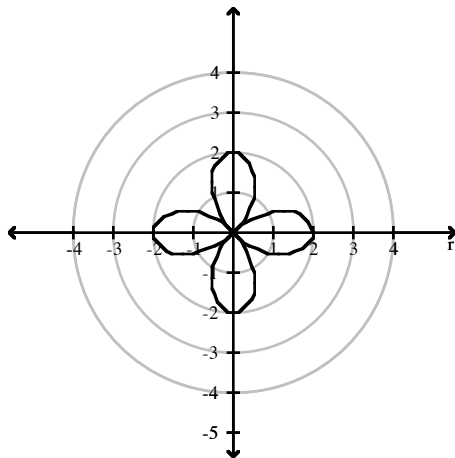
B)  $r = 2 + \cos \theta$

C)  $r = 4 \cos \theta$

D)  $r = 2 + \sin \theta$

6)

6) \_\_\_\_\_



A)  $r = 2 + \cos(2\theta)$

B)  $r = 2$

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

D)  $r = 2 \cos(2\theta)$

**SHORT ANSWER.** Write the word or phrase that best completes each statement or answers the question.

Test the equation for symmetry with respect to the given axis, line, or pole.

7)  $r = -2 \cos \theta$ ; the polar axis

7) \_\_\_\_\_

8)  $r = 2 \cos \theta$ ; the line  $\theta = \frac{\pi}{2}$

8) \_\_\_\_\_

9)  $r = 2 \sin \theta$ ; the pole

9) \_\_\_\_\_

10)  $r = 2 + 2 \cos \theta$ ; polar axis

10) \_\_\_\_\_

11)  $r = 2 - 2 \cos \theta$ ; the line  $\theta = \frac{\pi}{2}$

11) \_\_\_\_\_

12)  $r = 6 + 2 \sin \theta$ ; the line  $\theta = \frac{\pi}{2}$

12) \_\_\_\_\_

13)  $r = 6 + 2 \cos \theta$ ; the pole

13) \_\_\_\_\_

14)  $r = 2 - 4 \sin \theta$ ; the polar axis

14) \_\_\_\_\_

15)  $r^2 = \sin 2\theta$ ; the pole

15) \_\_\_\_\_

16)  $r = 3 \sin 3\theta$ ; the line  $\theta = \frac{\pi}{2}$

16) \_\_\_\_\_

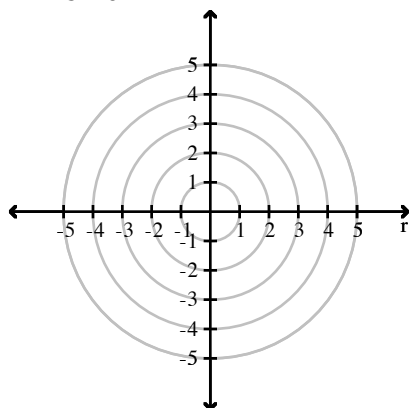
17)  $r \cos \theta = 4$ ; the polar axis

17) \_\_\_\_\_

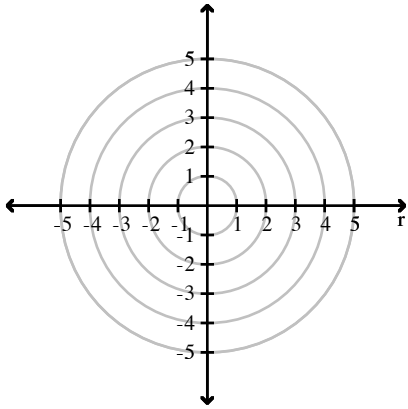
**Graph the polar equation.**

18)  $r = 4 \sin \theta$

18) \_\_\_\_\_

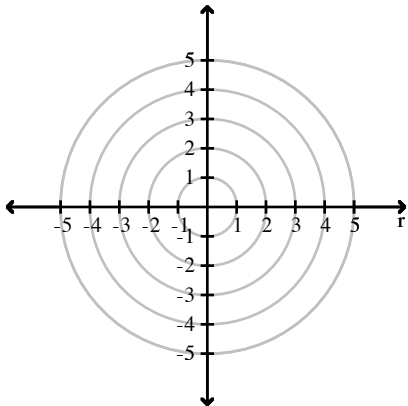


19)  $r = 4 \cos \theta$



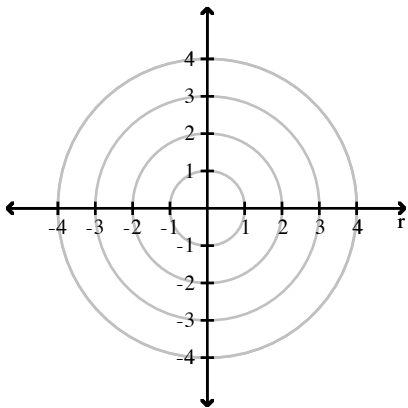
19) \_\_\_\_\_

20)  $r = 2 + \sin \theta$



20) \_\_\_\_\_

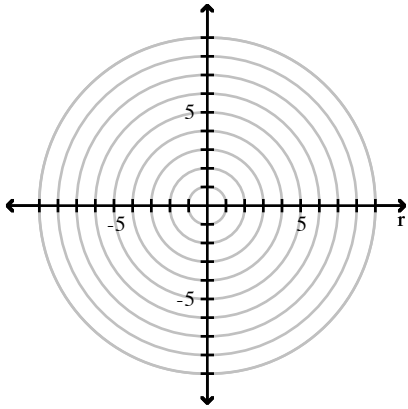
21)  $r = 2 + 2 \cos \theta$



21) \_\_\_\_\_

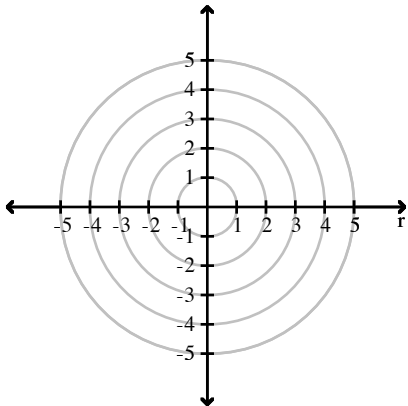
22)  $r = 4 - \cos \theta$

22) \_\_\_\_\_



23)  $r = 3 \sin 2\theta$

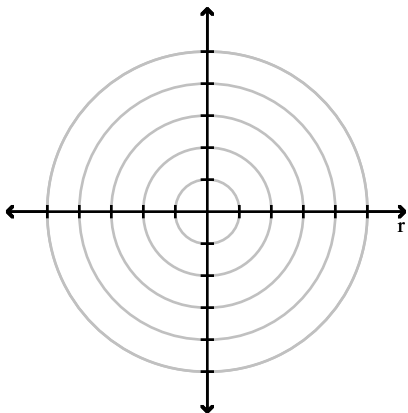
23) \_\_\_\_\_



Use a graphing utility to graph the polar equation.

24)  $r = \frac{4}{\theta}$

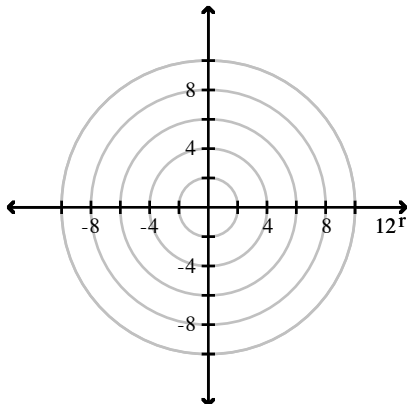
24) \_\_\_\_\_



Graph the polar equation.

25)  $r = 5 - 6 \sin 2\theta$

25) \_\_\_\_\_



Answer Key

Testname: TRIGONOMETRY 7.4 SHORT VERSION

1) B

2) C

3) C

4) D

5) B

6) D

7) has symmetry with respect to polar axis

8) may or may not have symmetry with respect to the line  $\theta = \frac{\pi}{2}$

9) may or may not have symmetry about the pole

10) has symmetry with respect to the polar axis

11) may or may not have symmetry with respect to the line  $\theta = \frac{\pi}{2}$

12) has symmetry with respect to the line  $\theta = \frac{\pi}{2}$

13) may or may not have symmetry about the pole

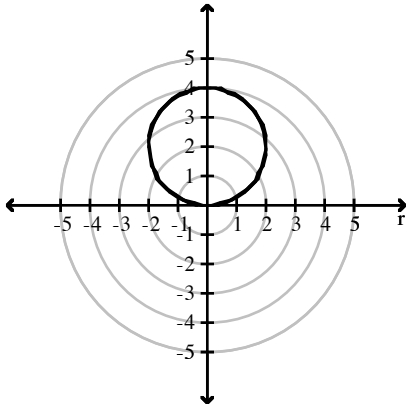
14) may or may not have symmetry with respect to the polar axis

15) has symmetry with respect to the pole

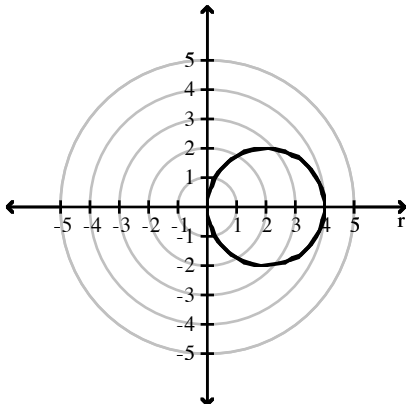
16) has symmetry with respect to the line  $\theta = \frac{\pi}{2}$

17) has symmetry with respect to polar axis

18)



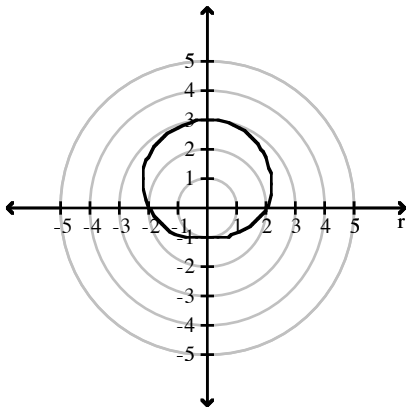
19)



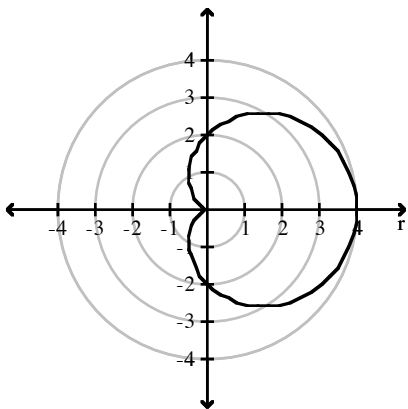
Answer Key

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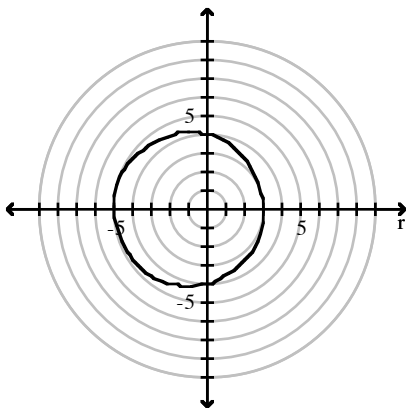
20)



21)



22)

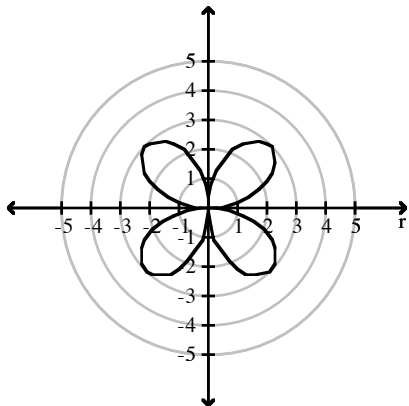




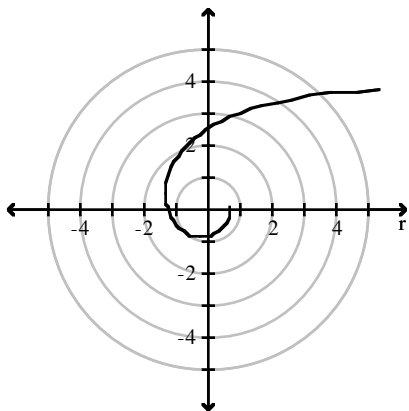
Answer Key

Testname: TRIGONOMETRY 7.4 SHORT VERSION

23)



24)



25)

