

1.4 More Ferris Wheels

Practice

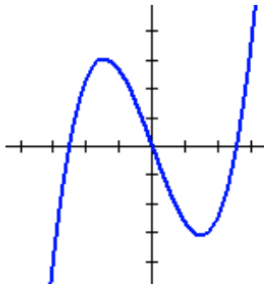


I. Even and odd functions

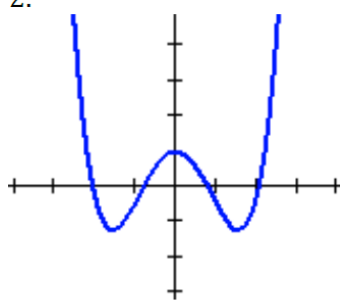
The *graphs* of even and odd functions make it easy to identify the type of function. Remember that an **even** function has a line of symmetry along the y-axis, while an **odd** function has 180° rotational symmetry.

Label the following functions as **even**, **odd**, or neither.

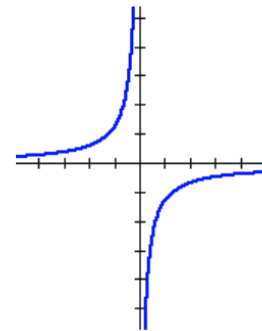
1.



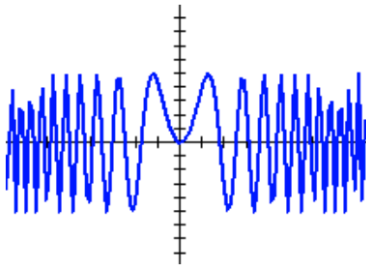
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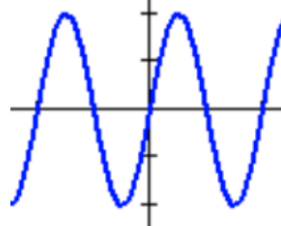
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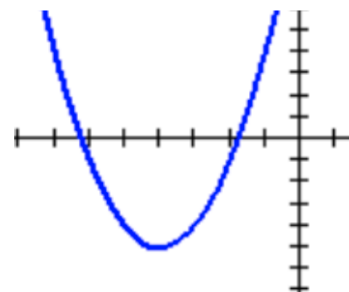
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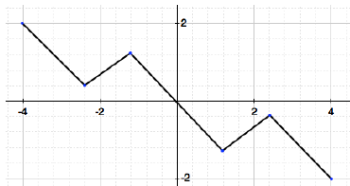
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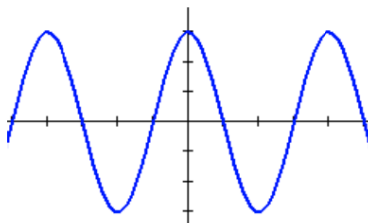
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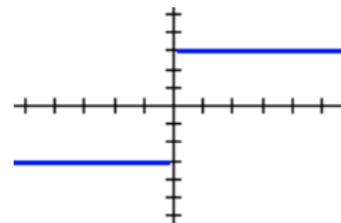
7.



8.



9.



II. Transformations on Functions

Describe the transformation on the parabola in the following equations.

10. $y = x^2 + 5$

11. $y = x^2 - 1$

12. $y = -x^2$

13. $y = 4x^2 + 5$

Match the equation with the correct graph. The scale of the x-axis is 90° . The scale of the y-axis is 1.

a. $y = \sin 2x$

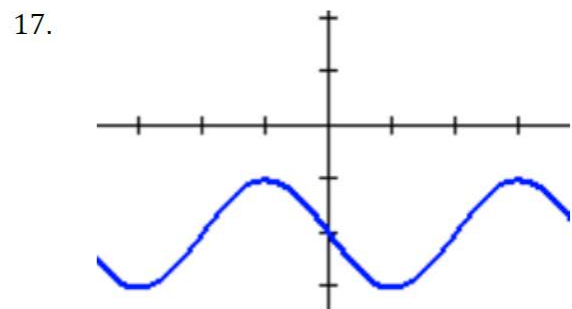
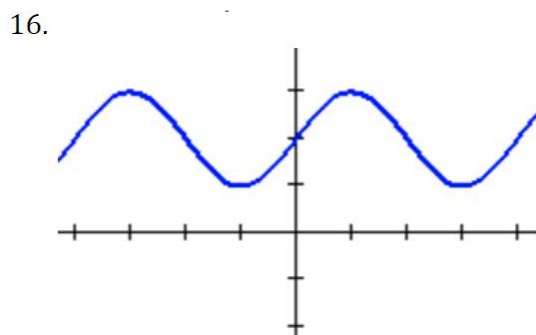
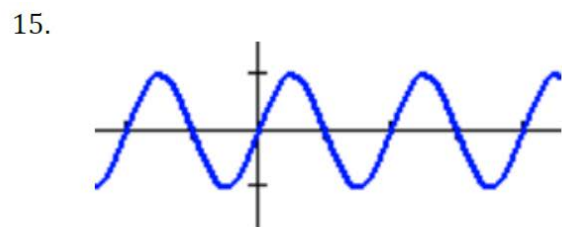
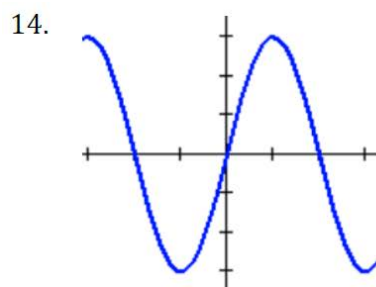
b. $y = (\sin x) + 2$

c. $y = 3\sin x$

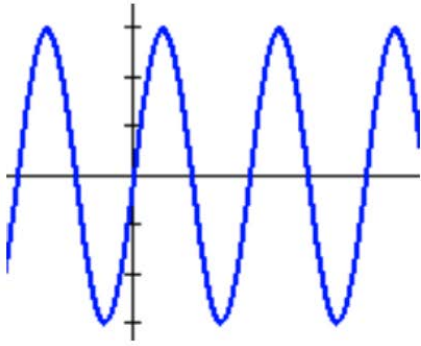
d. $y = -(\sin x) - 2$

e. $y = -2\sin x$

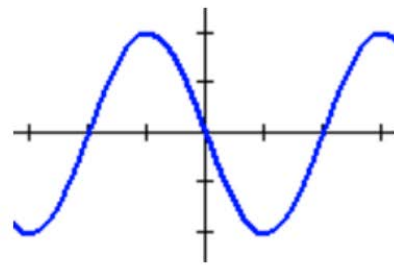
f. $y = 3\sin 2x$



18.



19.



III. Positive and Negative angles of rotation

A positive angle of rotation is counter-clockwise. Let's find out why. In the following examples, indicate whether the customary direction of rotation is **counter-clockwise** by placing (+) sign next to it or **clockwise** by placing a (-) sign next to it.

Sprinters racing around a track

+ - 20. The direction you turn the pages as you read a book

+ - 21. A car in America going around a roundabout

+ - 22. A pulley being used to lift an engine out of a car

+ - 23. Turning a water faucet on

+ - 24. A car in Australia circling in a roundabout (See sign at left.)

+ - 25. The rotation of the earth around the sun (See diagram below.)

+ - 26. The rotation of the moon around the earth. (See diagram below.)



