Graphs of Sine, Cosine and Tangent Functions

Year 11 · Algebra · y11-trig-graphs

Name: _____ Date: _____

Class: _____ Score: _____ / _____

Instructions
Answer every question in Practice. Try the Challenge section once Practice is complete. 10 questions in total.

Practice

1. What is the value of sin(0°)?

2. The graph of y = sin(x) repeats itself every 360°. What is this repeating distance called?

3. What is the value of cos(0°)?

4. What is the value of sin(90°)?

5. What is the value of cos(90°)?

6. What is the maximum value that y = cos(x) can ever reach?

7. sin(x) and cos(x) can never go above 1 or below -1 -- their graphs oscillate between these two values only. What is the minimum value that y = sin(x) can ever reach?

8. The graphs of y = sin(x) and y = cos(x) both repeat every 360°, not every 180°. After how many degrees does the graph of y = sin(x) first return to its starting shape?

Challenge

1. The graph of y = 3sin(x) is a vertical stretch of y = sin(x) by scale factor 3. What is the maximum value of y = 3sin(x)?

2. A big wheel's height (in metres) above the ground is modelled by h = 10 + 10cos(x), where x is the angle turned. What is the maximum height reached?