Lesson 4.5 Practice: Writing Sinusoidal Equations

School Launch · Trigonometry · Unit 4: Graphs of the Trigonometric Functions · Worksheet A

Scientific calculator

Name _____ Date _____ Score _____ / 10

Show your work under each problem, one step per line, and check your answer. Word problems: name the unknown, write the equation, solve, and answer in a sentence with units.

1. A tide varies between a high of 14 ft and a low of 12 ft with period 6 hours, high at $t = 0$. Write $h(t) = A\cos(Bt) + D$. EASY

2. A tide varies between a high of 7 ft and a low of 1 ft with period 24 hours, high at $t = 0$. Write $h(t) = A\cos(Bt) + D$. EASY

3. A tide varies between a high of 7 ft and a low of -5 ft with period 6 hours, high at $t = 0$. Write $h(t) = A\cos(Bt) + D$. EASY

4. A tide varies between a high of 18 ft and a low of 12 ft with period 6 hours, high at $t = 0$. Write $h(t) = A\cos(Bt) + D$. MEDIUM

5. A tide varies between a high of 12 ft and a low of 6 ft with period 6 hours, high at $t = 0$. Write $h(t) = A\cos(Bt) + D$. MEDIUM

6. A tide varies between a high of 8 ft and a low of 2 ft with period 24 hours, high at $t = 0$. Write $h(t) = A\cos(Bt) + D$. MEDIUM

7. A tide varies between a high of 5 ft and a low of 1 ft with period 10 hours, high at $t = 0$. Write $h(t) = A\cos(Bt) + D$. MEDIUM

8. A tide varies between a high of 18 ft and a low of 16 ft with period 24 hours, high at $t = 0$. Write $h(t) = A\cos(Bt) + D$. HARD

9. A tide varies between a high of 17 ft and a low of 11 ft with period 12 hours, high at $t = 0$. Write $h(t) = A\cos(Bt) + D$. HARD

10. A tide varies between a high of 13 ft and a low of 11 ft with period 4 hours, high at $t = 0$. Write $h(t) = A\cos(Bt) + D$. HARD