**Homework 1.3 Name:**

**You MUST show your work to receive full credit!**

|  |  |  |
| --- | --- | --- |
| Convert 157,680,000 seconds into years | The perimeter of a triangle is . The length is . Find the width | Provide an example of when the product of two irrational numbers is rational. |
| A rectangle has a length of 5x-15 and a length of 2x+7. What is the **area** of the rectangle? | A rectangle has a length of 5x-15 and a length of 2x+7. What is the **perimeter** of the rectangle? | A triangle has a base of 4x+10 and a height of x+5. What is the area of the triangle? |
| Write the explicit and recursive formula for the following arithmetic sequence. Then state which term would have a value of 82  -2, 4, 10, 16…  Explicit:  Recursive:  a \_\_\_ = 82 | Write the explicit and recursive formula for the following arithmetic sequence. Then find the 45th term  -4, -16, -28, -40…  Explicit:  Recursive:  A(45)= | Given the 10th and 14th term of an arithmetic sequence. Create the explicit formula.  A(10)= 36 a(14)= -80  Explicit: |
| Given that the 14th term of a sequence is 22 and the common difference is 7, find the 5th term. | Given the recursive formula below, write the explicit formula.  a(1)= 15 a(n)= a(n-1) +9  Explicit: | Given the explicit formula below, write the recursive.  a (n)= -4+6(n-1)  Recursive: |
| Briefly state the difference between an arithmetic and geometric sequence. | Write the explicit formula for the sequence below. Then find the 12th term. (hint: is it geometric or arithmetic?)  6, 3, 1.5, 0.75  Explicit  A(12)= | Write the explicit formula for the sequence below and then find the 24th term. (hint: is it geometric or arithmetic?)  -3, -7, -11  Explicit:  A(24)= |
| Determine your common ratio then write the explicit formula.  4, -8, 16, -32  R=  Explicit: | Write explicit formula and then find which term will have a value of 48  6, 9, 12, 15  Explicit  A(\_\_\_)= 48 | Given the explicit formula below write the recursive.  a(n)= -4+5(n-1)  Recursive: |
| In a geometric sequence, a(10)= 2,560 and r=2. Find a(1) | In a geometric sequence, a(1)=2 and a(5)= 512. Find the common ratio and the first four terms of the sequence. If there is more than on possible answer for r, state both. | In a geometric sequence, a(2)= 7 and a(6)= 0.4375. Write the explicit formula. |
| In a geometric sequence, a(3)=36 and a(9)= 26,244. Find the common difference then write the explicit formula | In a geometric sequence, a(3)=36 and a(9)= 26,244. Find the common difference then write the recursive formula | Determine whether the following sequence in geometric or arithmetic. Then write the explicit and recursive. Then find the value of the 15th term.  4, 9, 14, 19  Explicit:  Recursive:  A(15)= |
| Given the following two terms of an arithmetic sequence, write the recursive formula.  A(7) = 45 a(25)= -9  Recursive: | In an arithmetic sequence the 10th term is 450 and the common difference is 5. Find the 30th term. | Write the explicit formula for a geometric sequence where the second term is 10,000 and the 5th term is 80. |
| Write the recursive formula for a geometric sequence where the second term is 10,000 and the 5th term is 80. Then write the first four terms of the sequence. | Explain why the following table has more than one answer for its missing terms. Then state what those two possible answers are for each term.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | X | 1 | 2 | 3 | 4 | 5 | | y | 4 |  | 100 |  | 2,500 | | How does a graph of a geometric sequence differ from the graph of an arithmetic sequence? |