**Honors Homework 1.3 Name:**

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

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| Convert 457,680,000 seconds into years  | The perimeter of a triangle is $24\sqrt{10}$ . The length is $2\sqrt{250}$. 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 65th term-4, -16, -28, -40…Explicit:Recursive:A(65)=  | Given the 10th and 14th term of an arithmetic sequence. Create the explicit formula. A(10)= 36 a(14)= -80Explicit:  |
| Given that the 10th 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)= -7 a(n)= a(n-1) +9Explicit: | Given the explicit formula below, write the recursive.a (n)= 14 + 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 7th term. (hint: is it geometric or arithmetic?)6, 3, 1.5, 0.75ExplicitA(7)= | Write the explicit formula for the sequence below and then find the 35th term. (hint: is it geometric or arithmetic?)-3, -7, -11Explicit:A(35)=  |
| Determine your common ratio then write the explicit formula. 4, -8, 16, -32R=Explicit:  | Write explicit formula and then find which term will have a value of 486, 9, 12, 15ExplicitA(\_\_\_)= 48 | Given the explicit formula below write the recursive.a(n)= -4+5(n-1)Recursive: |
| In a geometric sequence, a(12)= 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 19th term. 4, 9, 14, 19Explicit:Recursive:A(19)=  |
| Given the following two terms of an arithmetic sequence, write the recursive formula. A(9) = 45 a(27)= -9Recursive: | 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.

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| X | 4 | 5 | 6 | 7 | 8 |
| y | 4 |  | 100 |  | 2,500 |

 | How does a graph of a geometric sequence differ from the graph of an arithmetic sequence? |