**Homework 1.1 Name:**

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

|  |  |  |
| --- | --- | --- |
| Write the following algebraically:Two less than a number squared | Simplify the following:$$\left(3x-7\right)-\left(2x^{2}+8x-10\right)$$ | Simplify the following:$$\left(2x-4\right)\left(5x-6\right)$$ |
| Simplify the following:$$-3\sqrt{224x^{3}y^{7}}$$ | Simplify the following:$$3\sqrt{2}\left(2\sqrt{24}- \sqrt{40}\right)$$ | Convert 936 inches per hour to **feet per minute** |
| **Find y** when **x = 8** for the following:$$y=6x-15$$ | **Find y** when **x = -5** for the following:$$y= -4x+9$$ | **Find x** when **y = 13** for the following: $$y=2x-1$$ |
| Write the arithmetic sequence **(explicit)** for the following:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| x | 1 | 2 | 3 | 4 |
| y | 485 | 470 | 455 | 440 |

 | Write the arithmetic sequence **(explicit)** for the following:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| x | 1 | 2 | 3 | 4 |
| y | 10 | 20 | 30 | 40 |

 | Write the arithmetic sequence **(explicit)** for the following:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| x | 1 | 2 | 3 | 4 |
| y | 37 | 49 | 61 | 73 |

 |
| Create the **recursive formula** for the following arithmetic sequence: | Create the **explicit formula** for the following arithmetic sequence: | Find the **52nd term** for the following: |
| The value of the 8th term is 78. The sequence is increasing by 10 at each step. **Write the explicit equation.** | The value of the 8th term is 78. The sequence is increasing by 10 at each step. **Find the 20th term.** | The value of the 8th term is 78. The sequence is increasing by 10 at each step. **Find the 9th term.** |
| Fill in the blanks:1. 3, 8, 13, 18, \_\_\_\_, \_\_\_\_, \_\_\_\_..
2. Common Difference: \_\_\_\_
3. Recursive Formula:
4. Explicit Formula:
 | Fill in the blanks:1. 11, 9, 7, 5, \_\_\_\_, \_\_\_\_, \_\_\_\_..
2. Common Difference: \_\_\_\_
3. Recursive Formula:
4. Explicit Formula:
 | Fill in the blanks:1. 3, 1.5, 0, \_\_\_\_, \_\_\_\_,\_\_\_\_...
2. Common Difference: \_\_\_\_
3. Recursive Formula:
4. Explicit Formula:
 |
| Explicit equation: $a\_{n}=3n+7$Recursive: $a\_{n}=a\_{n-1}+3$

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Term# | 1 | 2 | 3 | 4 |
| Value | 10 | 13 | 16 |  |

Find the 4th term: \_\_\_\_\_Which formula did you use and why? | Explicit equation: $a\_{n}=3n+7$Recursive: $a\_{n}=a\_{n-1}+3$

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Term# | 1 | 2 | … | 52 |
| Value | 10 | 13 | … |  |

Find the 52nd term: \_\_\_\_\_Which formula did you use and why? | What is the common difference for the following: |
| Write the recursive formula for the following: | Write the explicit formula for the following:  | Create a graph for the picture to the left.  |
| I have a common difference of -3 and my first term is 28. Write my explicit formula: | My first term is 7. My 6th term is 32. What is my common difference?Write my explicit formula: | My first term is 72. My 8th term is 24. What is my common difference?Write my recursive formula: |