**Midterm Review Questions (Set 2)**

**1.** Is the following a function? Why or why not?

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***x*** | 0 | 1 | 2 | 3 |
| ***y*** | 4 | 4 | 4 | 4 |

**2.** Translate the following verbal phrase:

 “The product of 2 and the sum of a number and 7 is less than 12”

**3.** Write a rule for the function:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***x*** | –3  | 0 | 3 | 6 |
| ***y*** | 3 | 1 | –1  | –3  |

**4.** Can the following lengths form a right triangle? Show or explain.

 9, 12, 7

**5.** Rewrite in function form:

 $2x-y=7$

**6.** Evaluate:

 $-3\frac{1}{2}+2\frac{1}{7}∙1\frac{2}{3}$

**7.** Simplify:

 *x*(4 – *x*) – (*x* – 3)

**8.** Solve:

 $\frac{d+3}{4}=\frac{d-2}{2}$

**9.** Evaluate:

 8 – 10 ÷ 2**·**5 + 4

**10.** A ladder that is 20 feet long is leaning against a house. The base of the ladder is 12 feet from the house. How high can the ladder reach?

**Answers:**

**1.** Yes, each input has one output

**2.** 2(*x* + 7) < 12

**3.** $y=-\frac{2}{3}x+1$

**4.** No, when you use the Pythagorean Theorem you get 130 = 144

**5.** $y=-7+2x$

**6.** $\frac{1}{14}$

**7.** $3x-x^{2}+3$

**8.** *d* = 7

**9.** –13

**10.** 16 feet