Review for EOCT: #2 Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. A rectangle has an area of 30 m2 and a width of 500 cm. What is the length of the rectangle, in cm?
2. What is the area of a circle with a circumference of 94.2477 inches? (Use 3.14159 for ∏ )
3. A certain population of bacteria has a growth rate of 0.02 bacteria/hour. The formula

for the growth of the bacteria's population is A = P0(2.71828)0.02t where *P*0 is the original population and *t* is the time in hours. If you begin with 200 bacteria, approximately how many of the bacteria can you expect after 200 hours?

1. Two angles of a triangle measure 62° and 45°. What is the measure of the third angle?
2. What is the solution to the equation *P* = 2*l* + 2*w* when solved for *w*?
3. Bruce owns a business that produces widgets. He must bring in more in revenue than he pays out in costs in order to turn a profit.
* It costs $10 in labor and materials to make each of his widgets.
* His rent each month for his factory is $5000.
* He sells each widget for $35.

How many widgets does Bruce need to sell each month to make the minimum profit?

1. Which equation is equivalent to  ?

 a. 2x = 44

 b. 4x = 44

 c. 11x = 88

 d. 17x = 88

1. Which equation is equivalent to 6n = 2(t – 20) when solved for *t*? (What you need to do is solve the equation for t.)
2. Which equation is equivalent to 4(*x* + 3) = 2(*y* + 4) when solved for *y*? (Again, you need to solve for y.)
3. This equation can be used to find *h*, the number of hours it takes Flo and Bryan to mow their lawn.

h/4 + h/5 = 1

How many hours will it take them? (Hint: solve the equation by getting rid of the fractions by multiplying through by the LCD.)

1. A shop sells one-pound bags of peanuts for $3 and three-pound bags of peanuts for $5. If 11 bags are purchased for a total cost of $39, how many three-pound bags were purchased? (Hint: set up your 2 equations: (1) an equation representing the number of bags purchased, and (2) an equation representing the value of the bags purchased)
2. Which pair of inequalities is shown in the graph?



1. y > 2x + 1 and y < -⅓x + 2
2. y ≥ 2x + 1 and y ≤ -⅓x + 2
3. y ≥ 2x + 1 and y > -⅓x + 2
4. y ≤ 2x + 1 and y > -⅓x + 2
5. none of the above
6. Which equation corresponds to the graph shown?

 a. y = -x - 2



 b. y = 2x - 2

 c. y = x - 2

 d. y = -2x - 2

1. The first term in this sequence is -1.



Which function represents the sequence?

 a. *n + 1*

 b*. n + 2*

 c*. 2n - 1*

 d. *2n – 3*

1. Which function is modeled in this table?
2. f(x) = x + 6

|  |  |
| --- | --- |
| ***x*** | ***f(x)*** |
| 1 | 7 |
| 2 | 9 |
| 3 | 11 |
| 4 | 13 |

1. f(x) = x + 7
2. f(x) = 2x + 5
3. f(x) = 3x + 5
4. If f(2) = 3(2)+(2)2 , which function gives f(x)?
5. f(x) = 2x + x2
6. f(x) = 3x+x2
7. f(x) = 2x + 4
8. f(x) = -3x - x2
9. A population of squirrels doubles every year. Initially there were 5 squirrels. A biologist

studying the squirrels created a function to model their population growth, *P*(*t*) = 5(2t) where *t* is time. The graph of the function is shown. What is the range of the function?

a. any real number



b. any whole number greater than 0

c. any whole number greater than 5

d. any whole number greater than or equal to 5

1. The function graphed on this coordinate grid shows *y*, the height of a dropped ball in

feet after its *x*th bounce. On which bounce was the height of the ball 2 feet?

1. Bounce 1



1. Bounce 2
2. Bounce 3
3. Bounce 4
4. The points (0, 1), (1, 3), (2, 9), (3, 27) are on the graph of a function. Which equation

represents that function?

a. f(x) = 2x

b. f(x) = 3x

c. f(x) = 4x

d. f(x) = 5x

1. If the parent function is *f*(*x*) = *mx* + *b*, what is the value of the parameter *m* for the curve passing through the points (-1, 6) and (5, 3)?