1. Which number is equivalent to $\frac{3^{5}}{3^{-3}}$?
	1. 729 B. 9 C. 27 D. 6,561
2. Rebecca can buy bags of chips in packages of 3 for $7.83 or in packages of 2 for $5.74. How much money does she save buying 18 bags of chips at the better price?
	1. $4.68 B. $2.09 C. $16.72 D. $13.57
3. The base angles of an isosceles triangle are eighteen less than the measure of the vertex angel. Find the measure of the vertex angle.
	1. 108 B. 72 C. 54 D. 90
4. Simplify the expression: -4-2+2-3
	1. ¼ B. 1/16 C. 3/16 D. -1/16
5. Which of the terms below is a like term to –xy2
	1. –x2$∙$y B. -4y-2x C. -8y2x D. –xy
6. Each dimension of a cube has been increased twice its original size. If the new cube has a volume of 125,000 cubic meters, what is the area of one face of the original cube?
	1. 10,000 m2 B. 2,500 m2 C. 150 m2 D. 600m2
7. Point M has the coordinates (4, 4). What are the coordinates of the image point if it is translated 3 units down and 6 units to the left, and reflected over the x-axis?
	1. (-2, -1) B. (2, 1) C. (2, -1) D. (-2, 1)
8. At North Alabama College, 40% of the Senior Class students is taking Physics, 30% is taking Calculus, and 10% is taking both. If 400 students are enrolled in the senior class, how many students are taking neither Physics nor Calculus?
	1. 280 B. 120 C. 160 D. 80
9. The two triangles are similar. Find the length of the hypotenuse of the larger triangle.
	1. 25 B. 11.25 C. 10 D. 20

6

8

15

1. Evaluate: -a[(-x-a) – (x-y)] if a= -3, x=4, and y=-5
	1. 0 B. -64 C. 24 D. -30
2. How many factors does 2015 have?
	1. 2 B. 4 C. 8 D. It is a prime number
3. If x ☺ y= x3-2y2+4, find (3☺4) ☺(-2)
	1. 725 B. -5 C. -733 D. -31
4. Solve for x: $\frac{1}{3}+\frac{5}{12}x-2=6\frac{2}{3}$
	1. 16 B. 25 C. $\frac{16}{25}$ D. 20

9 in

12in

15 in

20 in

1. Find the volume of the triangular prism:
	1. 1350 in3 B. 1080 in3
2. C. 350 in3 D. 2160 in3
3. Joe is taller than Suzy but shorter than both Malik and Tonya. Malik is shorter than Tonya. Natalie is shorter than Suzy. Who is the shortest?
	1. Tonya B. Natalie C. Malik D. Suzy
4. Which of the following is not a rational number?
	1. $1.\overbar{34}$ B. 73% C. -2.3255 D. $\sqrt{\frac{4}{625}}$
5. The game warden wants to know about how many fish are in Lake George. One hundred eighty fish are caught, tagged, and released into the lake. Several days later 350 fish are caught, 55 had tags. Approximately, how many fish are in the lake?
	1. 28 B. 1,145 C. 107 D. 1,960
6. Which fractions are in order from least to greatest?
7. $\frac{5}{12},\frac{1}{2},\frac{3}{5},\frac{7}{12}$ B. $\frac{9}{16},\frac{3}{4},\frac{5}{6},\frac{11}{12}$ C. $\frac{7}{9},\frac{13}{15},\frac{2}{3},\frac{4}{5}$ D. $\frac{4}{9},\frac{2}{3},\frac{1}{2},\frac{1}{4}$
8. Six children are evenly spaced around a round table. The circumference of the table is 30 meters. How far apart are the children who are directly opposite each other? (round to the nearest tenth of a meter using 3.14 for π)
	1. 9.6 m B. 9.5 m C. 9.4m D. 4.8 m
9. Which statement is true about this inequality: $3-x\geq 8$
	1. Every solution is greater than 5
	2. None of the solutions are negative
	3. Every number greater than 3 is a solution
	4. 0 is not a solution
10. The equation of a line is $2x-4y=7.$ What is the slope of the line?
	1. ½ B. -4 C. 2 D. -7/4
11. Evaluate: $\sqrt[8]{\left(5\left(\frac{\sqrt{2.1^{2}}}{5}\right)\right)^{8}}$round to the nearest hundredth.
	1. 0.42 B. 2.10 C. 0.94 D. 155.58
12. What digit is in the ones place of 390?
	1. 7 B. 1 C. 9 D. 3
13. The table below shows input(x) and output (y) from a linear function. What is the value of y?
	1. 37 B. 71 C. 49 D. 44

|  |  |
| --- | --- |
| Input | Output |
| 3 | 16 |
| 7 | 28 |
| 9 | 34 |
| 14 | Y |
| 19 | 64 |

1. A leaky faucet drips at the rate of 1 drip every 3 seconds. One hundred eighty drips will fill one cup. How many gallons of water will drip in one week?
	1. 7 gallons B. 16 gallons C. 140 gallons D. 70 gallons

TB1 Solve for x: $x^{2}-4x-96?$

TB2 Simplify: $64^{-\frac{3}{2}}$

TB3 The diameter of a circle is 24m. What is the area of a 40$°$ sector? Leave answer in terms of π.