**You have 60 minutes to answer the following 30 questions. Figures are not drawn to scale. Select E) NOTA if none of the above answers is correct.**

1. The city Monstropolis centers around Monsters, Inc., the city's power company. If the company was started on December 11, 1967, how old, in years, is the company today (December 11, 2010)?

**A. 33 B. 43 C. 44 D. 53 E. NOTA**

2. Every worker at Monsters, Inc. has a numbered password to get into the company headquarters. James P. Sullivan (better known as Sulley) has a three digit, prime number as his password. Which of the numbers below could be Sulley’s password?

**A. 723 B. 732 C. 739 D. 807 E. NOTA**

3. Mike Wazowski is a rather round fellow. If Boo was drawing him in two dimensions and she made his entire area 49 in, what would his radius be in inches?

**A. π B. 7 C. 24.5 D. 49 E. NOTA**

4. Mike and Sulley have filled  scream canisters. How many scream canisters have they filled?

**A. 17 B. 42 C. 49 D. 1344 E. NOTA**

5. Boo’s pink, flowery door is a rectangular prism. Before Sulley goes into her room he gets an urge to find the volume of her door. The equation for a rectangular prism’s volume is

**length x width x height**. If the volume is 21 ft , the length is 3 feet, and the width is 1 foot, what is the height of Boo’s door in feet?

**A. 6 B. 7 C. 8 D. 9 E. NOTA**

6. This week, Sulley (No. 1 scream-generator at the plant) gets 13 screams on Sunday, 15 on Monday, and 17 on Tuesday. If he continues at this rate, how many total screams will he have by the end of Saturday this week?

## A. 108 B. 119 C. 133 D. 134 E. NOTA

7. For any child younger than the age 9, Mike Wazowski’s name is nearly impossible to pronounce. Evauate the expression below to find out how many kids in one day can’t pronounce Mikey’s name.



**A. 24,444 B. 2445 C. 9945 D. 9944 E. NOTA**

8. Some of the other monsters at Monsters, Inc. were looking at the average daily screams they get during their work week. Find the mean of the average daily screams of 10 random Monsters.

Averages Daily Screams of 10 Random Monsters:

9, 8, 7, 7, 3, 12,7,16, 9, 10

**A. 6 B. 7 C. 8 D. 8.8 E. NOTA**

9. Sulley is tall and blue. Mike is short and green. Boo is small. Which of the following shapes is a parallelogram, whose opposite [angles](http://en.wikipedia.org/wiki/Angle)  have equal measure, and whose two diagonals are [perpendicular](http://en.wikipedia.org/wiki/Perpendicular)?

**A. parabola B. pentagram C. rhombus D. trapezoid E. NOTA**

10. The solution that Monster, Inc. makes is what powers the entire city of Monstropolis. The solution that creates the electricity is made from screams, Goosebumps, and fear. If  of the solution is screams and of the solution is Goosebumps, what fraction of the solution is fear?

**A.  B.  C.  D.  E. NOTA**

11. Mike is deathly afraid of children. So, when Boo comes through her door into the world of monsters, Mike tries to get her to different places by leaving a trail of cereal. If she eats  boxes of cereal when she is there, what is the improper fraction for the number of boxes of cereal she ate?

**A.  B.  C.  D.  E. NOTA**

12. To be able to catch Boo and steal all of her screams, the evil Randall Boggs must buy these following items: a pair of rubber gloves which cost $4.33, a childproof box which costs $14.87, a voice activated lock which costs $31.99, and finally a box of cereal which costs $1.98. If he pays for this with a $100 dollar bill and then splits the remaining money equally with two of his minions and himself, how much money should each of them get? (Don’t take tax into account)

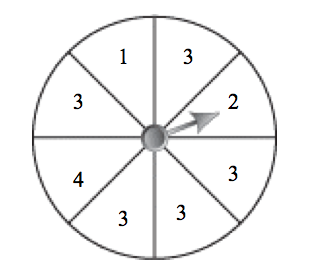
**A. $53.17 B. $46.83 C. $15.61 D. $15.00 E. NOTA**

13. What should Sulley say the answer to the expression below is to receive his pay from Roz the grouchy paycheck clerk:



**A. -256 B. 256 C. -832 D. 832 E. NOTA**

14. Sulley and Boo are playing a bedtime game of “Spin the Spinner” with the spinner shown below. What is the probability that one of them will spin a 3? ( each area is equal)



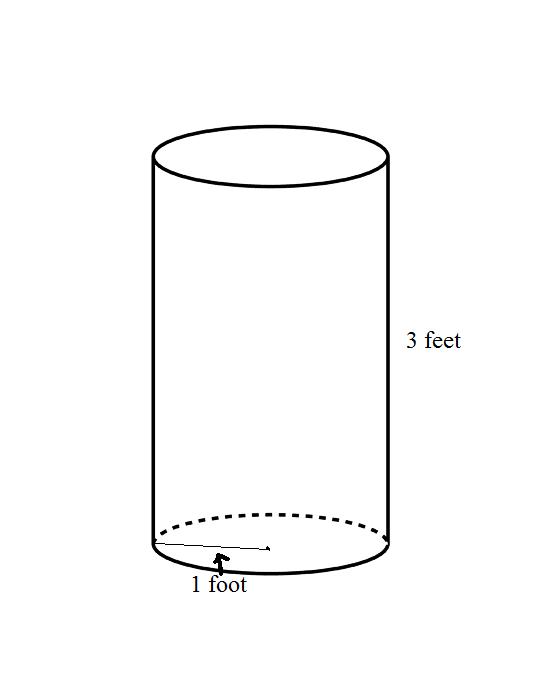
**A.  B. **

**C.  D. **

**E. NOTA**

15) Monsters, Inc. collects the screams of young children in cylindrical canisters. Using the

formula for the volume of a cylinder (Volume =h) and the picture provided, find the volume of the Scream Canisters if the radius is one foot and the height is 3 feet.



**A. 3π**

**B. 6π**

**C. 9π**

**D. 12π**

**E. NOTA**

16. Mike is drinking Monster Energy Drink for lunch. There are 10 cans in front of him. He doesn’t know exactly how many cans he should drink to feel energized to do some scaring. He knows that it is an even prime number. When the number is spelled out, what is the first letter?

## E B. F C. S D. T E. NOTA

17. Roz is stacking paperwork for Mike to fill out. If the volume of the stack is 3168 in³, and the

area of the bottom sheet of paper is 88 in², what is the height of the stack in inches?

1. **8 B. 11 C. 36 D. 316.8 E.NOTA**

18. The order in which Mike chooses the doors every morning is blue, pink, orange, purple, then red. If this pattern continues, what color will the 56th door be?

**A. orange B. pink C. purple D. red E. NOTA**

For questions 19 and 20 use the diagram of a rectangle below.

19. Boo’s door is a rectangle identical to the one illustrated above. What is the area of Boo’s door?

**A. ft.² B. 5 ft.² C. 11 ft.² D. 24 ft.² E. NOTA**

20. What is the perimeter of the door?

**A. 10 ft. B. 11ft. C. 22 ft. D. 24 ft. E. NOTA**

3 ft

8 ft

21. Mike is a one- eyed monster. His eye has a radius of 6 inches. What is the circumference of his eye in inches?

**A. 12 B. 12² C. 36 D. 36² E. NOTA**

22. If it takes Sulley one hour to scare seven children, and he takes the same amount of time to scare each child, how many minutes does it take for him to scare one child? (Round to three decimal places)

**A. 0.117 B. 0.143 C. 5.193 D. 8.571 E. NOTA**

For questions 23 and 24 use the set of data listed below

These are the numbers of legs on each monster working at Monsters Inc. today:

3 7 14 10 25 3 5 8 7 0 6 3 19 7 20 26 7

23. Find the median of the number of legs.

**A. 6 B. 7 C. 10 D. 17 E. NOTA**

24. What is the mode of the number of legs?

**A. 3 B. 7 C. 10 D. 26 E. NOTA**

25. One of the monsters working at Monsters, Inc. has 2 sets of parallel sides. Which shape could he NOT be?

**A. rhombus B. rectangle C. parallelogram D. ellipse E.NOTA**

26. Sulley is lifting weights to get into scaring shape. Yesterday he bench pressed 210 pounds, and today he bench pressed 212 pounds. What is the greatest common factor of yesterdays and today’s lifted weights?

**A. 2 B. 3 C. 5 D. 44,520 E. NOTA**

27. The Monsters, Inc. door shredder shreds doors at a rate of 0.25 feet per second. If Boo’s door is 8 feet long and the door is shredded at a constant rate, how many seconds does it take for Boo’s door to be completely shredded?

**A. 3.125 B. 8 C. 16 D. 32 E. NOTA**

28. To save Boo, Sulley has to fit into the sled shown below. If the seat is a square, and the entire sled is a rectangle, how much room in square feet does Sulley have to fit in, not including the seat?

Seat

7 ft.

4 ft.

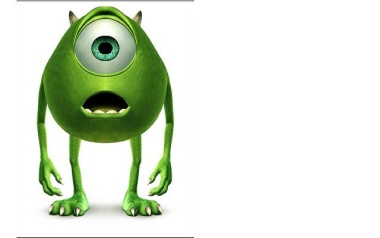
5 ft.

**A. 16 B. 19 C. 35 D. 51 E. NOTA**

29. Boo’s probability of scaring a child is  while Sulley’s probability of scaring a child is **.** Assuming these probabilities are independent, what is the probability both Boo and Sulley scare a child at the same time.

**A. 0 B.  C.  D.  E. NOTA**

30. Which picture of a monster has perfect symmetry?

**A. B. C. **

**D. E. NOTA**