С	ATS	conte	st^1
2	Nove	ember	2013

Grade____

Write your answer in the box provided. Answers must be exact. Thus, if the answer is 1/3, 0.33 will not be marked correct. You may not use a calculator or cell phone. You may use scratch paper.

1. If today is Tuesday, what day will it be in 10 days?

Friday

2. A car goes 51 miles per hour for 2 hours and then 66 miles per hour for 3 hours. What is the average speed of the car for the 5 hour trip?

60

3. Write the following fraction in reduced form: $\frac{132}{165}$.

4/5

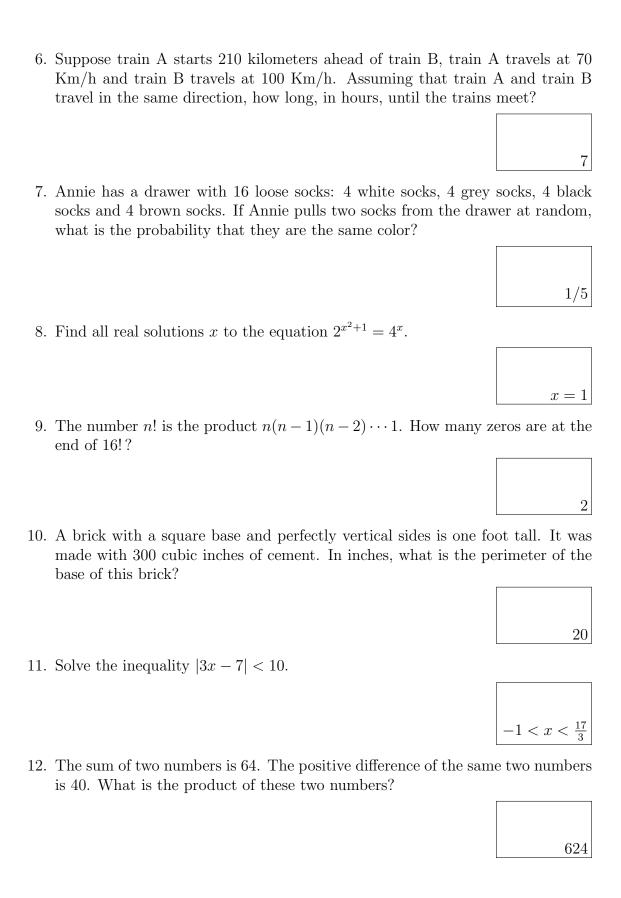
4. Given that $\frac{9}{x^2+x-2} = \frac{A}{x-1} + \frac{B}{x+2}$, find A and B.

$$A = 3, B = -3$$

5. Britta bought 27 pieces of fruit at a market; she got apples, bananas and oranges. She bought twice as many apples as bananas, and twice as many oranges as apples and bananas in total. How many bananas did she buy?

3

¹CATS stands for CATS Are Top Solvers



13.	Shirley has \$2.08 in some combination of pennies and nickels. She has more pennies than nickels. What is the maximum number of nickels that Shirley could have?
	34
14.	What is the next term in the following sequence?
	$0, 3, 8, 15, 24, \dots$
	35
15.	Trapezoid $ABCD$ has $m \angle ABC = 112^{\circ}$ and $m \angle BCD = 147^{\circ}$. What is $m \angle CDA$ in degrees?
	33°
16.	A shipping container is 24 feet long, 6 feet wide, and 8 feet tall. In feet, what is the maximum distance between two corners of the container?
	OC.
17.	A circle has an area of 38π meters square. What is the diameter of the circle?
	$2*\sqrt{38}$
18.	What is the area of a regular hexagon inscribed in a circle of radius 1?
	$\frac{3\sqrt{3}}{2}$
19.	What is the smallest perfect square that is divisible by 41?
	1681

20.	Find the sum $1 + 2 + 3 + + 37$.	
21.	We say that a square is $awe some$ if each of its vertices lies at an containing two integers (x, y) , where both x and y are no greater less than 0. How many distinct $awe some$ squares are there?	
22.	Suppose we have a bag with 7 balls of different colors. How many are there to choose 3 of them?	20 distinct ways
23.	Find the roots of $x^3 + 10x^2 + 17x - 28$.	35
24.	What is the digit in the ones place of 2013^{2013} ?	1, -4, -7
25.	A shift for a worker is 7 hours long. Suppose the first worker s at 00:00. What is the minimum number of workers (no breaks takes for the final shift to end at 13:00 (not necessarily on the s	in between) it
		19