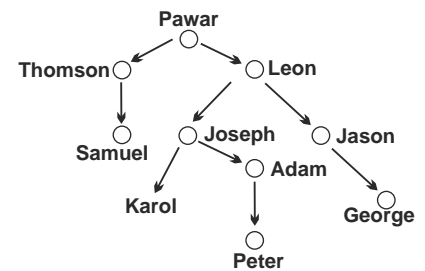


Titan-Genius Kidz National Arithmetic Championship-3

Question Paper

Category : **SENIOR** (8th, 9th & 10th Std.)

- 1) Peter created a genealogical tree of the men in his family. The arrows go from a father to a son. What was the name of the son of the brother of the grandfather of Peter's father's brother?



2) $5.8 \times 6.1 \times 9.8 = ?$

- 3) Four friends buy 36 cookies for \$12. Each person contributes the following amount of money:
 Tom--\$2 Jake--\$3 Ted--\$4 Sam--\$3

Each person gets the number of cookies proportional to the money paid. Draw a circle graph to represent the amount of cookies each got. Draw another circle graph to show how many each would have if Ted gives half of his cookies to Tom.



Note: Draw the graphs with free hand & represent the amount of cookies approximately. Do not use any scale / compass / protractor

- 4) A number has a remainder of 2 when it is divided by 4. It has a remainder of 2 when it is divided by 3. It has a remainder of 1 when it is divided by 7. Find the smallest possible value of this number

- 5) Jason and Colin each have some money at first. If Jason gives \$45 to Colin, both will have the same amount of money. If Colin gives \$45 to Jason, the amount of money Jason has will be twice the amount of money Colin has. How much money does each of them have at first?



- 6) Which is equivalent to 5^{-6} ?
 A) $1/5^{-6}$ B) -5^{-6} C) $1/5^6$ D) $1/-5^{-6}$

- 7) Mowing Lawns
 Ron and Darrell mow lawns to earn money in the summer. Ron has an electric mower. He charges \$17 a yard and pays his little brother \$5 to help. He is able to do 9 yards in an hour. Darrell has a walking mower. He charges \$20 a yard and does 3 yards an hour. Both use their mowers for eight & half hours each. Who earns most?



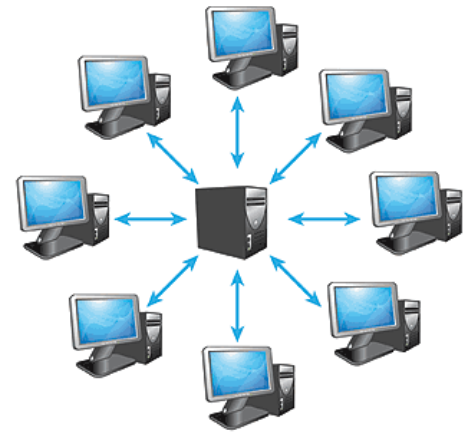
8) $-2.3 \times 95.6 \times -2.5 \times -0.2 = ?$

9) 45% of 363 = ?

10) $\sqrt{1130}$ is between which two integers?

11) Below are the sales figures for 3 different types of network server over 3 months.

Server	January		February		March	
	Units	Value	Units	Value	Units	Value
ZXC43	32	480	40	600	48	720
ZXC53	45	585	45	585	45	585
ZXC63	12	240	14	280	18	340



- In which month was the sales value highest?
A) January B) February C) March
- What is the unit cost of server type ZXC53?
A) 12 B) 13 C) 14
- How many ZXC43 units could be expected to sell in April?
A) 56 B) 58 C) 60
- Which server had its unit price changed in March?
A) ZXC43 B) ZXC53 C) ZXC63

12) Baking Bonanza

Jane is baking. She needs 4 cups of sugar. Her problem is that she only has a $\frac{1}{2}$ cup measure and a $\frac{3}{4}$ cup measure. What is the least number of scoops that she could make in order to get 4 cups?



13) Simplify. Express your answer using a single exponent.

$$\left(\frac{1}{h^{-7}}\right)^{-9}$$

14) $313 \times 2.03 = ?$

15) Slipping Snails

Upon your arrival on Monday morning, you observe a snail making its way up the wall of your cabin. Each day, it carefully works its way 30 inches up the wall. At night, though, it slips back down 12 inches. The cabin wall is 9 feet high. If the snail started on Monday, which day will it reach the top of the cabin?



16) 62% of 987 = ?

17) Andrew, Jolene and Tommy each draw 3 cards from 9 cards numbered 1, 2, 3, ..., 9.

Andrew: The product of all my numbers is 48

Jolene: The sum of all my numbers is 16

Tommy: The product of all my numbers is 63

What is the largest number of Jolene's card?



18) From the following, select an answer which is closest to 24% of 33

- A) $\frac{1}{2} \times 34$ B) $\frac{1}{4} \times 34$ C) $\frac{1}{2} \times 32$ D) $\frac{1}{4} \times 32$

19) Which point is in Quadrant IV?

- A) (5, 5) B) (2, -1) C) (-3, 5) D) (-4, 5)

20) Replace x in 1×832 , such that, when you round it off, you get 17,000?

- A) 7 B) 8 C) 6 D) 4

- 21) Seymore has just gotten a new job. On his first day, the boss gave him 2 choices for his salary. First Choice: Start at \$30,000 and get a 5% raise at the end of every year. Second Choice: Start at \$23,000 and get a \$5000 raise at the end of each year. Calculate how much Seymore would be making at the start of the 5th year. Which is the better choice?



22) $7 \times 10^3 \times 10^2 = ?$

- A) 1×10^4 B) 0×10^2 C) 1×10^5 D) 1×10^6

- 23) What's My Score?

Ms. Angell has 12 students in her advanced algebra class. On a recent test, the average score was 80. When Beth asked for her score, Ms. Angell could not find it, but she did remember adding Beth's score in the average. She also remembered that Beth had passed. These are the scores of the other students:

65, 65, 70, 70, 80, 85, 85, 90, 90, 90, 100

What is Beth's score?



24) $-(0.8)^2 \times 3^{-2} + 9^3 = \underline{\hspace{2cm}}$

- 25) Write 5.38×10^5 in standard form

- 26) A grand father's clock take 6 seconds to chime thrice when it is 3 pm.
How long does it take to chime 6 times when it is 6 pm?



- 27) Identify the missing number.

7	4
5	6

49	16
25	?

- 28) In the Shelbyville election, the Republican candidate received one and a half times as many votes as the Democratic candidate. The Democratic candidate received one third more votes than the Independent candidate. 900 votes were cast for the Independent candidate. How many votes were cast for the Republican candidate?

A	B	C	D	E
900	1400	1600	1000	1800

- 29) Examine the table, and then write an algebraic equation that shows how x and y are related.

x	3	4	5	6	7
y	11	14	17	20	23

- a) $x + y = 14$
 b) $3x + 2y = 20$
 c) $3x + 2 = y$
 d) $x + 8 = 11$

- 30) Which sign makes the following true?

$(1.3 \times 10^2) ? (3.1 \times 10^3)$

31)

Motorcycle Sales (Model TT950)

Country	Jan	Feb	Mar	Apr	May	Jun	Total
Germany	34	47	45	54	56	60	296
UK	40	44	36	47	47	46	260
France	37	32	32	32	34	33	200
Belgium	14	14	14	16	17	14	89
Spain	29	29	28	31	29	31	177
Italy	22	24	24	26	25	23	144
Total	176	190	179	206	208	207	1166

The table above shows the unit sales of the TT950 motorcycle in six European countries over a six month period. These motorcycles are imported into each country by a main dealer. Use this information to answer the following questions.

- a) What percentage of the overall total was sold to the German importer?

A	B	C	D	E
22.0	25.4	25.8	24.1	24.6

- b) What percentage of the overall total was sold in May?

A	B	C	D	E
24.1	25.6	27.1	17.8	20.3

- c) Which month showed the biggest increase in the total sales from the previous month?

A	B	C	D	E
Feb	Mar	Apr	May	Jun

- d) What percentage of the monthly total was sold to the biggest importer in February?

A	B	C	D	E
24.7	23.1	36.5	51.1	15.1

- e) What is the average number of units per month imported into Italy over the first four months of the year?

A	B	C	D	E
22	23	24	25	26

- f) What percentage of total imports is accounted for by the three smallest importers?

A	B	C	D	E
37.1	14.8	40.0	36.6	35.1



- 32) The first three numbers of a series are 1, 9 and 8. The fourth number is the remainder, when the sum of the first three numbers is divided by 3. The fifth is the remainder, when the sum of the 2nd, 3rd and 4th numbers is divided by 3.

- 33) In an ancient grave, an archaeologist discovered a tomb which carried a pattern of numbers. Some of these numbers were erased. Please help the archaeologist to decode the number pattern.

4	9	9	11	x	12	15	8
x	5	x	3	4	x	9	x
1	4	x	8	2	x	6	x
9	x	4	x	16	49	x	9

