TEST INGRESSO CLASSE SECONDA SCUOLA SECONDARIA I GRADO

MATEMATICA

ARITMETICA

Obiettivo: **potenze** in N

1.

$b \times b \times b \times b \times b \times \ldots\ldots = b^n$

$b^n = a \qquad a = bxbxbxb\ldots\ldots$

7x7x7x7x7 = ……

2x2x2x2x2x2x2x2x2= ……

31x31x31x31= ……..

7^4 = ……..

5^5 = ……..

3^6 = ……..

2.

Calcola le seguenti potenze (aiutati con le tavole numeriche):

2^4 =	5^2=	3^5 =
1^{21}=	0^2 =	7^0 =
1^2 =	27^4	13^4 =
19^6 =	7^9 =	5^8 =

3. Applica le proprietà delle potenze (scrivi il risultato sotto forma di potenza)

$22^2 \bullet 22^4 = 22^{\cdots}$	$7^3 \bullet 7^0 \bullet 7^5 =$	$13^2 \bullet 13^3 \bullet 13 =$
$5^7 \bullet 4^7 =$	$3^5 \bullet 41^5 \bullet 1^5 =$	$123^3 \bullet 3^3 \bullet 0^3 =$
$9^7 : 9^6 =$	$4^8 : 4 =$	$3^5 \bullet 3^4 : 3^6 =$
$28^5 : 7^5 =$	$192^7 : 8^7 =$	$321^8 : 321^8 =$
$\left(5^4\right)^2 =$	$\left[\left(6^4\right)^5\right]^3 =$	$\left(6^4 \bullet 6^2\right)^3 \bullet \left(2^9\right)^2 =$

4. Calcola le seguenti **potenze del 10**

$10^3 =$	$10^2 =$	$10^0 =$	$10^7 =$
$10^{-2} =$	$10^{-1} =$	$10^{-4} =$	$10^{-7} =$

5. **Trasforma** i seguenti numeri **in potenze del 10**

$10000 = 10^{\cdots\cdots}$	$100000 =$	$10 =$	$100000000 =$
$0,1 =$	$0,0001^1 =$	$0,001 =$	$0,00001 =$

Obiettivo: divisibilità, mcm, MCD

1.

FIND THE DIVISORS OF THESE NUMBERS	**2**	**3**	4	**5**	**6**	9	**10**	**11**
462								
135								
616								
660								
270								

2. SCOMPONI IN FATTORI PRIMI:

   a. **116**

   b. **555**

3. WICHI IS THE **greatest common factor(GCF)** AND THE **lowest common multiple (lcm)** BETWEN:

   a. 360 and 450

Obiettivo: **frazioni**

1. REMEMBER:

PROPRIA	$n < d$
IMROPRIA	$n > d$
APPARENTE	$n = K \times d$ and $K \in N$

2. Fill with *propria* **P** , *impropria* **I** e *apparente* **A**

$\frac{3}{3}$	.....		$\frac{7}{9}$	.....		$\frac{12}{3}$	.....
$\frac{14}{3}$	.....		$\frac{24}{6}$	.....		$\frac{4}{12}$	.....
$\frac{12}{4}$	.....		$\frac{3}{6}$	.....		$\frac{7}{21}$	.....

3. Wich is the natural number (= n) ?

fraction	n		fraction	n		fraction	n		fraction	n
$\frac{20}{4}=$	**5**		$\frac{28}{4}=$			$\frac{45}{9}=$			$\frac{27}{3}=$	

EQUIVALENT FRACTIONS

4.

$$\frac{5}{7}=\frac{20}{....} \qquad \frac{16}{28}=\frac{4}{...} \qquad \frac{12}{21}=\frac{...}{7} \qquad \frac{8}{7}=\frac{56}{...}$$

5. Reduce to ***lowest terms*** example : $\frac{20}{28}=\frac{4}{7}$

$$\frac{12}{15}= \qquad \frac{16}{18}= \qquad \frac{26}{39}=$$

FRAZIONE COMPLEMENTARE

6. Example: $\frac{7}{10}+?=1 \rightarrow \frac{7}{10}+\frac{3}{10}=1$

$$\frac{7}{9}+-=1 \qquad \frac{13}{17}+-=1 \qquad \frac{19}{20}+-=1$$

CONFRONTO TRA FRAZIONI

7. Put in **DESCENDING ORDER** $\frac{3}{11};\frac{1}{11};\frac{9}{11};\frac{11}{11}$

8. Put in **INCREASING ORDER** $\frac{2}{5};\frac{2}{8};\frac{2}{2};\frac{2}{3};$

FRAZIONE COME OPERATORE

9. Wich is the fraction of ***n*** ? la

$$\frac{5}{12} of\, 84 = x$$

$$\frac{5}{7} of\, 77 = x$$

10. Wich is ***X*** if you know the fraction?

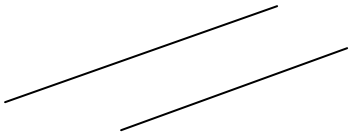
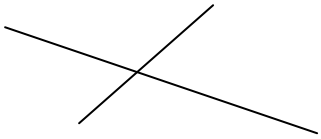
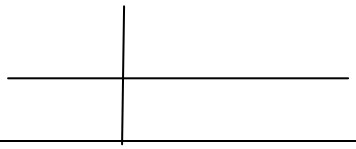
$$\frac{8}{7} di \quad x = 32$$

$$\frac{9}{5} di \quad x = 63$$

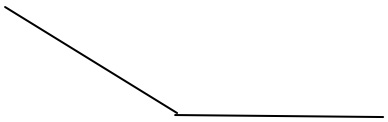
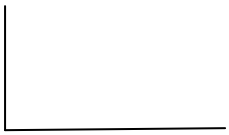
GEOMETRIA

Obiettivo: enti geometrici

1. Posizione tra rette

		$a \cap b = P$
		$a \perp b$
		$a \parallel b$

2. Angoli

		$\alpha > 90°$
		$\alpha = 90°$
		$\alpha < 90°$
		$\alpha = 180°$

3.

a. 45° 27’ 32’’ + 25° 22’ 15’’=
b. 23° 34’ 23’’ + 89° 41’ 51’’
c. 90° 50’ 45’’ – 80° 40’ 40’’ =
d. 90° – 30° 30’ =
e. 20° 12’ 21’’ x 3 =
f. 115° : 2 =

Triangoli

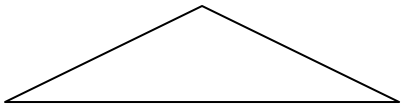
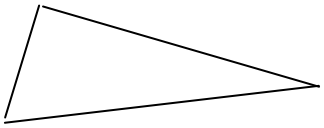
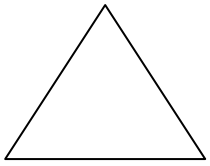
4. Are they angols of a triangle (yes Y; no N)

α	***β***	***γ***	**Y /N**
30°	30°	90°	
30°	50°	10°	
40°	90°	50°	
50°	60°	40°	
110°	45°	25°	

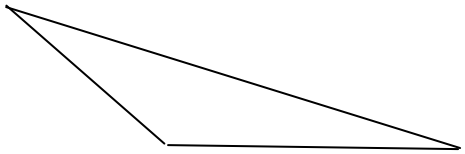
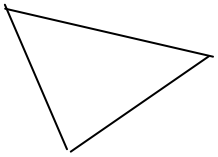
5. Are they sides of a triangle (yes Y; no N)

AB	**BC**	**CA**	**Y / N**
25cm	37cm	25cm	
11cm	23cm	11cm	
30cm	30cm	30cm	
19cm	34cm	16cm	
30cm	25cm	20cm	

6. Triangles

equilateral		
isosceles		
scalene		

7.

Right triangle		
Obtuse triangle		
Acute triangle