

"Math Is Cool" Championships - 1997-8

Sponsored by: HEWLETT-PACKARD

April 17, 1998

Individual Contest, Grade 4

1. Evaluate: $\frac{6}{13} + \frac{2}{13} + \frac{4}{13}$
2. The sum of Triscia and Rhonda's age is 62. What will the sum of their ages be in 9 years?
3. Evaluate: 123 times 987
4. What number belongs in the blank? $8+7+6+5+4=2+3+4+5+ \underline{\quad}$
5. Evaluate: $(1 \times 4) \div (2 \times 2) \times (6 \div 1) \div (2 \times 3)$
6. Pencils cost 57¢ each. How much will it cost, in dollars, to buy 9 pencils?
7. Evaluate: $92,134 - 43,226$
8. What is the probability of rolling a 1, a 2, or a 4 on a six sided die?
9. Roy held his breath for 1 hour, 13 minutes and 18 seconds. How many seconds total did Roy hold his breath?
10. What time is 37 minutes before 12:30p.m.? (Answer must have a.m. or p.m.)

11. Drew dropped 2 dozen eggs. How many total eggs did he drop?
12. How many prime numbers are between 0 and 25?
13. What is the product of the missing numbers? 1,0,2,0,3,0, __, __, __
14. Nicole paid 72¢ for 4 apples. How much did each apple cost in cents?
15. Amanda earns a quarter each time she weeds the garden. One month she weeded the garden 9 times. How much money did she earn in dollars?
16. David collects marbles. So far, he has collected 18 dozen. How many total marbles does he have?
17. Grandma Vicki planted a garden. She planted 12 rows of tomato plants. She planted 23 plants in each row. How many tomato plants did she plant?
18. How many days are in the month of June?
19. Caleb wants to read 35 pages each day during the month of August. How many pages would he read that month?
20. Find two numbers whose sum is 20 and whose difference is 8?
21. A cricket and flea decide to hop up a set of stairs. The flea takes 3 steps at a time. The cricket takes 5 steps at a time. The staircase has 20 steps. What is the first step they both land on assuming they start on the ground?
22. If today is Wednesday, then 2 days before yesterday was ____?

23. Dayna is 60 inches tall and Shane is 72 inches tall. How many feet taller than Dayna is Shane?
24. Lisa has 6 red socks, 7 purple socks and 567 orange socks in drawer. How many single socks must she draw at random to ensure a matching pair of socks?
25. Tony has a cube six inches on a side. If he cuts the cube into smaller cubes 1 inch on a side, how many smaller cubes will he have?
26. Evaluate: $168 \div 168$
27. How many seconds are in an hour?
28. Jean is reading Heart of Darkness by Joseph Conrad. If she can read 17 pages in a day, what is the least number of days it will take her to read the book given that the book is 73 pages long?
29. If $A = 4$ and $B = 3$. Evaluate: $A+A+B+B+B+B+B$
30. If $A \odot B = A \times (A+B)$. Evaluate: $3 \odot 4$

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Team Multiple Choice Contest, Grade 4

1. I paid for my lunch with 5 quarters, 5 dimes, and 5 pennies. I could have paid for it with _____ nickels?

A) 8 B) 28 C) 637 D) 15 E) answer not given

2. About how large is the total enrollment at Math Is Cool Elementary?

1st Grade 123

2nd Grade 81

3rd Grade 109

4th Grade 131

5th Grade 147

6th Grade 141

A) 400 B) 500 C) 600 D) 700

3. Complete the following subtraction problem and find the value of ϕ that makes the problem true.

$$\begin{array}{r} 860 \\ - 34\phi \\ \hline 519 \end{array}$$

A) 1 B) 2 C) 3 D) 4 E) answer not given

4. Each row, column, and diagonal of this magic square adds to 15. Use the numbers 2,3,5,6,8 and 9 to complete the magic square. What number goes in the starred box?

		4
7		
	1	☆

- A) 9 B) 8 C) 3 D) answer not given
-

5. Since silence is golden, Mom is willing to pay for it. Mom will give 25¢ for every fifteen minutes that there is silence. How many hours of silence are needed in order for me to buy a \$50 Nintendo game?

- A) 20 B) 40 C) 50 D) 200 E) answer not given
-

6. Hank has four spice harvesters that can each harvest three tons of spice per trip. How many tons of spice can be harvested in a week, if each harvester makes six trips per week?

- A) 12 B) 18 C) 54 D) 72 E) answer not given
-

7. How many sides does a decagon have?

- A) 7 B) 9 C) 10 D) 12 E) answer not given

8. Find the number that makes the following true.

$$\begin{array}{r} 4 \ \phi \\ 3 \ 6 \\ + \ 4 \ \phi \\ \hline 1 \ \phi \ 0 \end{array}$$

- A) 2 B) 3 C) 6 D) 7 E) answer not given
-

9. How many counting numbers are between 17 and 46?

- A) 28 B) 30 C) 63 D) 29 E) answer not given

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April 17, 1998

Team Contest, Grade 4

1. Lonnie, J.R., and Nate play on a basketball team. Their positions are forward, center, and guard.
A) Lonnie and the guard bought a present for Nate.
B) Lonnie is not the forward

What position does Nate play?

2. Scott's age is 4 times Kevin's. Greg's age is twice Kevin's. The sum of all 3 ages is 21. How old is Kevin?
3. Number Ned is thinking of a number.
 - It is odd
 - It is between 1 and 100
 - It is higher than 20
 - It is a multiple of 5
 - The sum of its digits is 7.
 - It is smaller than the answer to 6 times 6

What is the number?

4. Brooke has 9 coins which have a total value of 48¢. How many pennies does Brooke have?
5. I am thinking of a number. Multiply the number by 2 then add 11. The answer is 39. What is the number?
6. At math camp, these are the choices for lunch. You have to pick one from each category.

Meat
Steak
Trout

Potatoes
Mashed
Baked
French Fries

Vegetables
Corn
Green Beans

How many different meals could you have?

7. One and one fourth pies are left after dinner. For a snack the next day, Tealah and Amanda eat one-half of a pie. What's left over after their snack?
8. If farmer Lou has one pig that can eat 2 pounds of corn, how many pigs does it take to eat 32 pounds of corn?
9. Find the next number. 8, 11, 15, 20, _____

10. Kevin and Julie were working on a math problem. Kevin wrote
$$\begin{array}{r} 4\ 5 \\ +\ 9\ 6 \\ \hline \end{array}$$

but miscopied the 5. Julie wrote
$$\begin{array}{r} 3\ 9 \\ +\ 9\ 6 \\ \hline \end{array}$$
 but miscopied the 3. What should the sum be?

Practice relay
Person#1
2+15

Practice relay
Person#2
TNYWG times 2

Practice relay
Person#3
TNYWG + 6

Practice relay
Person#4
TNYWG ÷4

Relay #1
Person#1
24 - 18

Relay#1
Person#2
TNYWG times 2

Relay#1
Person#3
TNYWG ÷4

Relay#1
Person#4
TNYWG times 0

Relay#2
Person#1
10 times 10

Relay#2
Person#2
TNYWG ÷4

Relay#2
Person#3
TNYWG ÷5

Relay#2
Person#4
TNYWG + 17

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April 17, 1998
Mental Math - Grade 4

Person #1

1. What is the product of 9 and 7?
2. What is the sum of 11 and 23?
3. What is 56 divided by 8?
4. What is the perimeter of a equilateral triangle with side length 5?

Person #2

1. What is the product of 6 and 8?
2. What is the difference between 34 and 12?
3. What is 27 divided by 3?
4. How many seconds are in $2\frac{1}{2}$ minutes

Person#3

1. What is the product of 5 and 11?
2. What is the difference between 31 and 16?
3. What is 39 divided by 13?
4. How many single eggs are in 7 dozen?

Person#4

1. What is the product of 4 and 12?
2. What is the sum of 68 and 12?
3. What is the difference between 33 and 8?
4. How many quarters are in 5 dollars?

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April 17, 1998 - Grade 4

College Knowledge Bowl Questions #1

1. What is $1 + 3 + 4 + 12 + 15$?

Answer: 35

2. How many more hours are there in a leap year than in a year that is not a leap year?

Answer: 24

3. How many inches are in 4 yards?

Answer: 144

4. What is $5 \times 4 \times 7 \times 2$?

Answer: 280

5. What is the sum of the thousands' digit and the tens' digit of 12,345?
(Read number as 12 thousand 3 hundred forty-five)

Answer: 6

6. What is the remainder when 315 is divided by 8?

Answer: 3

7. Jo had 3 dozen single socks in her drawer, but she lost 2 pairs. How many single socks does she have in her drawer now?

Answer: 32

Extra Question: What is the perimeter of a rectangle with sides of 8 and 5?

Answer: 26

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April 17, 1998 - Grade 4

College Knowledge Bowl Questions#2

1. What do I get if I multiply 14 by 14 and then divide the result by 14?

Answer: 14

2. What comes next in the sequence? 12, 15, 18, 21, ___

Answer: 24

3. What is the perimeter of a triangle with sides 14, 23 and 12?

Answer: 49

4. If four people all shake hands with each other once, how many handshakes occur?

Answer: 6

5. What is the value in dollars of 3 quarters, 4 dimes, 6 nickels and 8 pennies?

Answer: \$1.53

6. The sum of two consecutive odd numbers is 20. What is the biggest number?

Answer: 11

7. What is the probability of rolling an even number on a regular die?

Answer: $\frac{1}{2}$ or $\frac{3}{6}$

Extra Question: What is the probability of drawing a king or a queen from a standard deck of cards?

Answer: $\frac{2}{13}$ or $\frac{4}{26}$ or $\frac{8}{52}$

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April 17, 1998 - Grade 4

College Knowledge Bowl Questions #3

1. What is the sum of 3 fives?

Answer: 15

2. What time is it 32 minutes before 6:10 p.m.?

Answer: 5:38 p.m.

3. 94 is 49 more than what number?

Answer: 45

4. While signing a book, Grace used all the letters in the alphabet that came after b but before y. How many letters did she use?

Answer: 22

5. How many ways can you arrange the letters in the word "MOM"?

Answer: 3

6. What is the product of the first 3 prime numbers?

Answer: 30

7. What is $99 + 99 + 99 + 101 + 101 + 101$?

Answer: 600

Extra Question: Tom sees 6 cows and 3 chickens in the barn. How many total legs are there?

Answer: 30

Math Is Cool" Championships -- 1997-8

4th Grade - April 17, 1998

School Name _____ Team # _____

Proctor Name _____ Room # _____

Key

Full Name: _____

1st Score

Individual Contest - Score Sheet

Out of 30

DO NOT WRITE IN SHADED REGIONS

Answer			
1.	12/13		
2.	80		
3.	121401		
4.	16		
5.	1		
6.	(\$) ^{5.13}		
7.	48,908		
8.	$\frac{1}{2}$ or $\frac{3}{6}$		
9.	4398(seconds)		
10.	11:53 a.m.		
11.	24(eggs)		
12.	9		
13.	0		
14.	18(¢)		
15.	(\$) ^{2.25}		

Answer			
16.	216(marbles)		
17.	276(plants)		
18.	30(days)		
19.	1085(pages)		
20.	6 and 14 <small>order doesn't matter</small>		
21.	15(th step)		
22.	Sunday		
23.	1 (foot)		
24.	4(socks)		
25.	216(cubes)		
26.	1		
27.	3600(sec)		
28.	5(days)		
29.	23		
30.	21		

Math Is Cool" Championships -- 1997-8

4th Grade - April 17, 1998

School Name _____ Team # _____

Proctor Name _____ Room # _____

Key

Team Multiple Choice Contest-Score Sheet

1st Score

Correct responses are worth 2 points, incorrect responses are worth -1 point and no response is 0 points.

Out of 18

DO NOT WRITE IN SHADED REGIONS

Answer			
1.	E		
2.	D		
3.	A		
4.	B		
5.	C		
6.	D		
7.	C		
8.	A		
9.	A		

Math Is Cool" Championships -- 1997-8

4th Grade - April 17, 1998

School Name _____ Team # _____

Proctor Name _____ Room # _____

Key

Team Contest-Score Sheet

1st Score

Out of 10

DO NOT WRITE IN SHADED REGIONS

Answer			
1.	Forward		
2.	3		
3.	25		
4.	3		
5.	14		
6.	12		
7.	3/4		
8.	16		
9.	26		
10.	145		

Math Is Cool" Championships -- 1997-8

4th Grade - April 17, 1998

School Name _____ Team # _____

Proctor Name _____ Room # _____



Mental Math - Score Sheet

-
- A. 1. 63
2. 34
3. 7
4. 15

-
- B. 1. 48
2. 22
3. 9
4. 150

-
- C. 1. 55
2. 15
3. 3
4. 84

-
- D. 1. 48
2. 80
3. 25
4. 20

Math Is Cool" Championships -- 1997-8

4th Grade - April 17, 1998

School Name _____ Team # _____

Proctor Name _____ Room # _____



Relay Contest - Score Sheet

Practice relay

10

Answer for relay #1

0

Answer for relay #2

22