COASTMETRO
ELEMENTARY MATH PROJECT

GRADE 6 PRACTICE QUESTIONS

FACTORS & MULTIPLES

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

1. Describe or show a way that you can find all the factors of a number without missing any. Use 24 as an example.

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

2. Why do perfect squares always have an odd number of factors? Explain and give a few examples.

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

3. What is the greatest common factor of 18 and 20?
Show how you know.

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

4. What is the least common multiple of 5 and 9? Show how you know.

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

5. Can the LCM of two numbers be smaller than the numbers? Explain. You can use an example to help you.

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

6. Can the LCM of two numbers be bigger than the numbers? Explain. You can use an example to help you.

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

7. Can the GCF of two numbers be smaller than the numbers? Explain. You can use an example to help you.

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

8. Can the GCF of two numbers be bigger than numbers? Explain. You can use an example to help you.

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

9. Use the divisibility rules to determine whether 3 and 4 are factors of 426.

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

10. What are the first 10 prime numbers?

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

11. Why is 2 a special prime number?

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

12. Use a systematic method to find all the factors of 108.

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

13. Use square tiles to make as many rectangles as you can with

a. 12 tiles
b. 18 tiles
c. 36 tiles
d. 11 tiles.

You must use all the tiles for each one. Example: for 8 tiles you would have two rectangles: 1-by-8 and 2-by-4 (8-by-1 and 4-by-2 are not different rectangles). Keep track of your rectangles by drawing them on graph paper. How does the number of rectangles relate to how many factors a number has?

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

14. What will the 48th term of the pattern be?
Explain.

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

15. Your school PAC is going to make hamburgers for the back-to-school picnic. Hamburger patties come in packs of 12 and buns come in packs of 8.
How many packs of each would need to be bought to have the same number of patties and buns?
How many packs of each will the PAC need to buy if they are expecting 300 people at the picnic?

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

16. Ali has 12 apples, 20 grapes, and 8 pears. They want to divide them equally into containers. What is the minimum number of containers Ali can use? How many of each fruit will be in each container?

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

17. Find the GCF and LCM of:

a. 24 and 36

b. 16 and 80

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

18. Why isn’t 1 prime or composite?

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

19. Pencils come in packages of 10. Erasers come in packages of 12. Phillip wants to purchase the smallest number of pencils and erasers so that he will have exactly 1 eraser per pencil. How many packages of pencils and erasers should Phillip buy?

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

20. Make a factor tree for 42 and one for 13. What are their prime factorizations?

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

21. When the GCF of two numbers is 1, what can you say about their LCM?

Try some examples to find out.

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

22. Use divisibility rules to determine if 380 and 2403 are divisible by 2, 3, 4, 5, 6, 9, and 10.

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

23. Which one of the following numbers is prime?
How do you know?

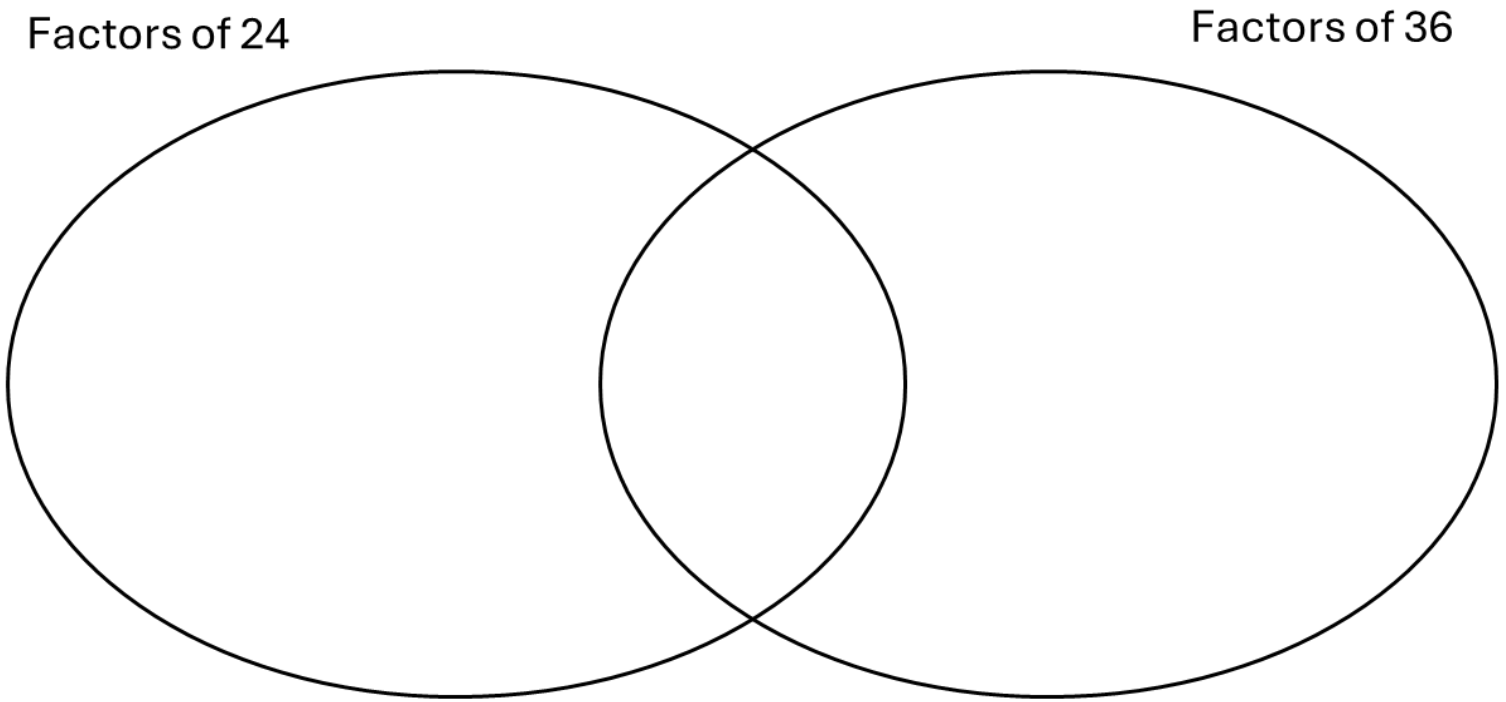
266, 480, 761, 909

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

4. Are all odd numbers prime? Why or why not?

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

25. Place the numbers in the correct positions in the Venn diagram below.



1, 2, 3, 4, 6, 8, 9, 12, 18, 24, 36

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

26. In a grade 6 class, the number of students in the class is prime.

There are between 20 and 30 students in the class. How many students could there be?

GRADE 6 FACTORS AND MULTIPLES:
CLOSED QUESTIONS

27. Here is a hundred chart. Are there more prime numbers between 1 and 100 or more composite numbers? How do you know?

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

GRADE 6 FACTORS AND MULTIPLES:
OPEN QUESTIONS

1. Write two numbers that have a GCF of 3.

GRADE 6 FACTORS AND MULTIPLES:
OPEN QUESTIONS

2. Write two numbers that have a GCF of 5.

GRADE 6 FACTORS AND MULTIPLES:
OPEN QUESTIONS

3. Write two numbers that have a GCF of 1.

GRADE 6 FACTORS AND MULTIPLES:
OPEN QUESTIONS

4. Challenge: Write two numbers that have a GCF of 14.

GRADE 6 FACTORS AND MULTIPLES:
OPEN QUESTIONS

5. Write two numbers that have an LCM of 30.

GRADE 6 FACTORS AND MULTIPLES:
OPEN QUESTIONS

6. Write two numbers that have an LCM of 45.

GRADE 6 FACTORS AND MULTIPLES:
OPEN QUESTIONS

7. The 4-digit number below is divisible by 6. What could the number be? Explain or show your thinking.

49___ ___

GRADE 6 FACTORS AND MULTIPLES:
OPEN QUESTIONS

8. Write a number that is divisible by 2 and 5, but not 3.

GRADE 6 FACTORS AND MULTIPLES:
OPEN QUESTIONS

9. What are two numbers that have at least one 2 and one 3 in their prime factorizations? Your numbers can have other prime factors as well.

GRADE 6 FACTORS AND MULTIPLES:
OPEN QUESTIONS

10. What pattern do the multiples of 3 make in a hundred chart?

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100