total motivation math™ Student | Grade Level 4

Name _____

introduction

1. List all the factors of the composite number 28.

_____

Circle the factors that are prime numbers.

2. Pedro listed the factors of 30 as 2, 3, 5, 6, 10, 15, and 30. Did Pedro list all the factors of 30?

Answer: _____

Explain your answer. _____

_____

_____

3. Study the clock face.

Which numbers on the clock face are composite numbers?

Answer: _____

Which numbers are prime numbers?

Answer: _____

4. Name the multiples of 3 that are greater than 30 and less than 60.

Answer: _____

_____

5. Jackson selected a mystery number. He gave Sara two clues to help her guess his number.

- The multiples of my mystery number include 18, 36, and 63.
- My mystery number has exactly 3 different factors.

What is Jackson's mystery number?

Answer: _____

6. Amanda's birthday is in February. The date of her birthday is the only prime number in that week. Use this calendar to find Amanda's birthday.

FEBRUARY

SUN	MON	TUE	WED	THU	FRI	SAT
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

What is the date of Amanda's birthday?

Answer: _____

Words for the Wise

composite number	factor pair	prime number	whole number
factor	multiple	product	

©2012–2014 MentoringMinds.com Illegal to copy

Name _____

partner practice

1. Which group of numbers includes only composite numbers?

Ⓐ 13, 23, 43, 53
Ⓑ 9, 11, 13, 15
Ⓒ 27, 49, 57, 63
Ⓓ 12, 17, 22, 27

2. 42 is a multiple of which numbers?

Ⓐ 7 and 5
Ⓑ 2 and 9
Ⓒ 6 and 3
Ⓓ 8 and 4

3. Clark's Department Store is celebrating its sixth anniversary by giving gift cards to every sixth customer. Upon entering the store, the customer pulls a number. Which of the following lists contains only winning numbers?

Ⓐ 1, 2, 3, 6
Ⓑ 12, 18, 24, 30
Ⓒ 6, 13, 21, 30
Ⓓ 18, 24, 32, 48

4. Which list names all factors of 36?

Ⓐ 1, 4, 6, 9, 36
Ⓑ 2, 3
Ⓒ 2, 3, 4, 6, 9, 12
Ⓓ 1, 2, 3, 4, 6, 9, 12, 18, 36

5. Estelyn
numbers
she foun

Based or
about th

Ⓐ The
Ⓑ The
Ⓒ The
Ⓓ The

6. The runn
numbers
Omar's s
of the fol
on Omar

Ⓐ 51
Ⓑ 47
Ⓒ 29
Ⓓ 23

7. Jann listed all the factors of 64 as:

1, 2, 3, 4, 8, 16, 32, 64

Why was Jann incorrect?

Ⓐ The factors of 64 do not include 16.
Ⓑ The factors of 64 do not include 3.
Ⓒ The number 64 is not a factor of itself.
Ⓓ Numbers always have an odd number of factors.

 Illegal to copy ©2012–2014 MentoringMinds.com

Total Motivation Math provides opportunities for flexible, original, and creative thinking.

Name _____

independent practice

1. Which list shows 4 numbers that are multiples of 7?

   Ⓐ 7, 14, 24, 63

   Ⓑ 7, 42, 56, 84

   Ⓒ 21, 42, 67, 81

   Ⓓ 28, 47, 63, 77

2. At the ballpark, every ninth person in line received a free baseball cap. Which person in line was **not** selected to receive a free baseball cap?

   Ⓐ 45

   Ⓑ 63

   Ⓒ 78

   Ⓓ 90

3. Bart told Lisa that all the factors of 24 are odd numbers. Bart's statement is incorrect because

   Ⓐ all the factors of 24 are even numbers.

   Ⓑ 24 is an even number and even numbers never have odd numbers as factors.

   Ⓒ 24 only has composite numbers as factors.

   Ⓓ only 2 factors of 24 are odd numbers.

4. The factors of a number include 2, 3, and 4. Which of the following could **not** be the number?

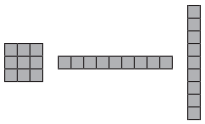
   Ⓐ 24

   Ⓑ 36

   Ⓒ 48

   Ⓓ 64

5. Jason used color tiles to create arrays for the number 9. These are all the arrays he found.



   Based on the arrays, what can you conclude about the number 9?

   Ⓐ It is a prime number.

   Ⓑ It is a composite number.

   Ⓒ It has a factor of 4.

   Ⓓ It is a multiple of 18.

6. Which of the following shows the smallest and largest 2-digit prime numbers?

   Ⓐ 2, 99

   Ⓑ 13, 91

   Ⓒ 11, 97

   Ⓓ 1, 89

7. Which of the following lists contains exactly 2 prime numbers and 2 composite numbers?

   Ⓐ 12, 13, 14, 15

   Ⓑ 9, 10, 11, 12

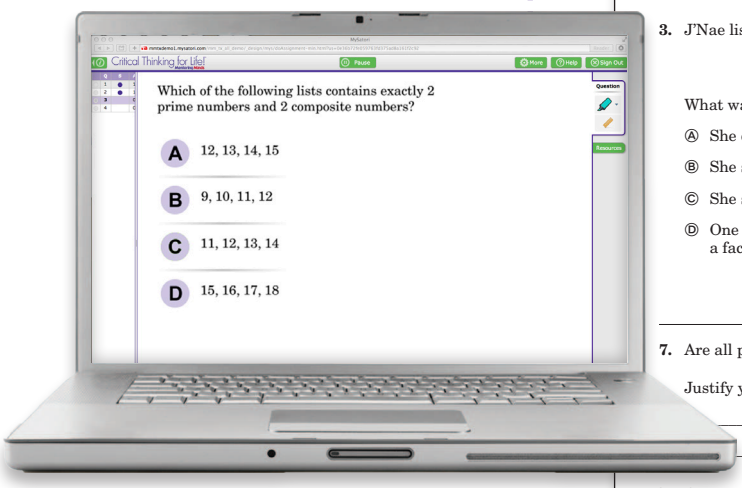
   Ⓒ 11, 12, 13, 14

   Ⓓ 15, 16, 17, 18

©2012–2014 MentoringMinds.com

Illegal to copy

YOU GET BOTH...
students can work in the book and online!



Name _____

that are all

on holding a ticket
of 8 won a bag of
ticket number

Ⓒ 84

Ⓓ 96

3. J'Nae listed all the factors of 100.

   1, 2, 4, 5, 20, 25, 50, 100

   What was J'Nae's mistake?

   Ⓐ She did not include 40 as one of the factors.

   Ⓑ She should have included 10 as a factor.

   Ⓒ She should not have included 5 as a factor.

   Ⓓ One is not a prime number, so it cannot be a factor.

4. Which list names all the factors of 84?

   Ⓐ 1, 3, 4, 7, 12, 28, 42, 84

   Ⓑ 2, 3, 4, 7, 12, 28, 42

   Ⓒ 1, 2, 4, 6, 7, 12, 14, 21, 28, 42, 84

   Ⓓ 1, 2, 3, 4, 6, 7, 12, 14, 21, 28, 42, 84

5. Mary created a table showing the factor pairs of 42.

Factor Pairs of 42

Factor Pairs	1	2	3	6
	42	21	14	7

   Based on the table of factor pairs, what can you conclude about 42?

   Ⓐ The number 42 is prime.

   Ⓑ The number 42 has a factor of 5.

   Ⓒ The number 42 is composite.

   Ⓓ The number 7 is the only prime factor of 42.

6. Lukas tells his teacher that on his birthday his age will be a prime number. He also tells her that it will be the first time his age has been prime since he was 7 years old. What age will Lukas be on his birthday?

   Ⓐ 9 Ⓒ 11

   Ⓑ 10 Ⓓ 12

7. Are all prime numbers also odd numbers? _____

   Justify your answer.

   _____

   _____

Illegal to copy

©2012–2014 MentoringMinds.com

Name _____

critical thinking

Analysis/Analyze

1. Marco is in elementary school. His father is 30 years older than Marco, and his mother is 4 years younger than his father. The ages of Marco, his mother, and his father are all prime numbers. What are their ages?

Marco's age: _____

Father's age: _____

Mother's age: _____

Analysis/Analyze

2. Percy, Hilda, and Fred take turns riding their horse. Percy rides every 4 days, Hilda rides every 5 days, and Fred rides every 6 days. If this pattern continues, what will be the first day they all ride the horse on the same day?

Answer: _____

How did you find your answer?

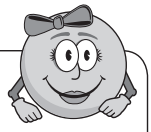
_____

_____

_____

yze

e number or a composite number?
pictures to justify your answer.



_____

_____

_____

_____

_____

Name _____

motivation station

Multiple Multiples

Skip count to find multiples on the hundred chart. Record the multiples by marking the square of each multiple with a colored dot using the colors and locations outlined in the table below. For example, for each multiple of 2, you would place a small red dot in the upper left corner of that number's square.

Color and Location Table

Multiples of...	Color of Dot	Location of Dot
2	Red	
3	Blue	
4	Green	
5	Orange	
6	Yellow	
7	Black	
8	Purple	
9	Brown	

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

1. Name a number that is a multiple of all these factors: 2, 3, 4, 5, and 6.

Answer: _____

2. Describe a pattern you can see on your completed chart.

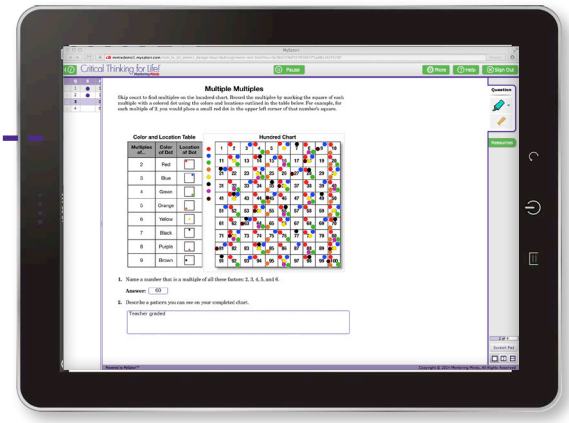
_____

_____

Parent Activities

1. Practice finding multiples by skip counting together. Select a number from 2 to 9 and skip count to 100.
2. Have your child use small square tiles to make rectangles. Find the length, width, and area of each rectangle by counting the tiles. Then determine if another rectangle can be formed with the same area but different dimensions. Use this information to determine if the area value is a prime or composite number.

 ©2012–2014 MentoringMinds.com



GRADE LEVEL 4 math