

Mark the best answer.

1. At the beginning of the year, Natalia decided to put \$1 in her bank after every 5 days. On day 170 of the year she put in \$1. How did she know that 170 is divisible by 5? (9-1)
- A Because 170 is even, 170 is divisible by 5.
- B Because the sum $1 + 7 + 0 = 8$ and 8 is not divisible by 5, 170 is not divisible by 5.
- C** Because the last digit is 0, 170 is divisible by 5.
- D Because it is not divisible by BOTH 2 and 3, 170 is not divisible by 5.
2. Which of the following lists all the common factors of 12 and 32? (9-4)
- A** 1, 2, 4
- B 1, 2, 3, 4
- C 1, 3, 4, 12
- D 1, 4, 6, 8
3. What is the prime factorization of 81? (9-3)
- A $3^3 \times 4$
- B $2^3 \times 3^2$
- C $2 \times 3 \times 4$
- D** 3^4
4. A truck delivered 36 boxes of corn to the store. Which list includes all the factors of 36? (9-1)
- A 1, 2, 4, 6, 12, and 36
- B 1 and 36
- C 1, 2, 3, 4, 5, 6, 7, 12, and 36
- D** 1, 2, 3, 4, 6, 9, 12, 18, and 36
5. Carlo set the table with a composite number of dishes. Which of the following is composite? (9-2)
- A 11
- B** 12
- C 29
- D 43
6. Kiana planted 27 trees in her yard. What is the prime factorization of 27? (9-3)
- A 3^2
- B** 3^3
- C 2^3
- D 4^3

7. The table shows the scores of several games played by a basketball team. During one game, the home team scored only 2-point shots and the visitors scored only 3-point shots. For which game does the score shown make that possible? (9-1)

Game	Home	Visitor
1	30	31
2	32	33
3	41	33
4	28	34

- A Game 1
 B Game 2
 C Game 3
 D Game 4
8. Chris has \$50 to spend on flowers for his garden. Yellow flowers are \$4 each and red flowers are \$3 each. If Chris would like twice as many red flowers as yellow flowers, how many of each should he buy to spend exactly \$50? (9-5)
- A 10 red flowers and 5 yellow flowers
 B 8 red flowers and 4 yellow flowers
 C 6 red flowers and 3 yellow flowers
 D 6 red flowers and 8 yellow flowers

9. What is the missing exponent in the equation showing the prime factorization of 44? (9-3)

$$44 = 2^{\square} \times 11$$

- A 2
 B 3
 C 4
 D 11
10. There are 24 students in the fourth grade and 28 students in the fifth grade. If they are to be divided into groups of equal size with each group having only fourth-grade students or fifth-grade students, what is the largest number that can be in each group? (9-4)
- A 2
 B 3
 C 4
 D 6
11. Which number of shells can not be divided equally except by giving one shell to each person? (9-2)
- A 16
 B 17
 C 21
 D 26

12. What is the prime factorization of 24? (9-3)

A $4^3 \times 6$

B $2 \times 3 \times 4 \times 8$

C $2^2 \times 4 \times 3$

D $2^3 \times 3$

13. Which number is prime? (9-2)

A 49

B 14

C 13

D 9

14. The table shows the number of pens and pencils that were donated to a school. If they are to be divided into groups that consist of only pens or only pencils, with the same number of items in each group, what is the greatest number of items that can be in each group? (9-4)

Item	Number
Pens	42
Pencils	28

A 2

B 3

C 9

D 14