Greatest Common Factor

Factors & Multiples • Answer Key

ANSWER KEY • Amplify Alignment: Grade 6 Accelerated, Unit 2, Lesson 7

1. Determine all the factors of each number.

a 18

1, 2, 3, 6, 9, 18

b 49

1, 7, 49

c 60

1, 2, 3, 4, 5, 6, 10, 12, 15, 20, 30, 60

d 29

1, 29

2. For the numbers 16 and 40, determine:

a The factors of 16.

1, 2, 4, 8, 16

b The factors of 40.

1, 2, 4, 5, 8, 10, 20, 40

c The common factors of 16 and 40.

1, 2, 4, 8

d The greatest common factor (GCF).

8

3. For the numbers 30 and 45, determine:

a The factors of 30.

1, 2, 3, 5, 6, 10, 15, 30

b The factors of 45.

1, 3, 5, 9, 15, 45

c The common factors of 30 and 45.

1, 3, 5, 15

d The greatest common factor (GCF).

15

4. Determine the greatest common factor of each pair of numbers.

a 12 and 28 **4**

b 9 and 36 **9**

c 48 and 64 **16**

d 25 and 14 **1**

5. Consider the numbers 36 and 84.

a How many common factors do 36 and 84 have? Explain your thinking.

6 common factors: 1, 2, 3, 4, 6, and 12.

b What is the greatest common factor of 36 and 84? Explain your thinking.

12. It is the largest number that divides both 36 (12 × 3) and 84 (12 × 7).

6. A coach is making snack bags with 24 apples and 36 granola bars. Each bag will have the same number of each snack, with none left over. Select all the possible ways to pack the bags.

- [x] **A.** 12 bags, each with 2 apples and 3 granola bars
- [x] **B.** 6 bags, each with 4 apples and 6 granola bars
- [ ] **C.** 8 bags, each with 3 apples and 4 granola bars
- [x] **D.** 4 bags, each with 6 apples and 9 granola bars
- [ ] **E.** 3 bags, each with 8 apples and 10 granola bars

7. A choir has 48 sopranos and 36 altos. The director wants to make groups with the same combination of sopranos and altos in each group.

a What is the greatest number of groups that can be formed? Explain your thinking.

12 groups. 12 is the greatest common factor of 48 and 36.

b How many sopranos would be in each group? **4**

c How many altos would be in each group? **3**

8. Mia, Noah, and Zoe each found the greatest common factor of 18, 42, and 60. Mia says it is 6. Noah says it is 3. Zoe says it is 12. Who is correct? Explain your thinking.

Mia is correct. 6 divides 18, 42, and 60, and no larger number divides all three. 3 is a common factor but not the greatest. 12 does not divide 18 or 42.