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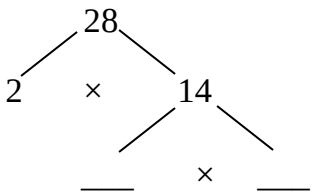
4.OA.B.4 Prime Factors

4.OA.B.4 Find all factor pairs for a whole number in the range 1-100

1. Complete the factor tree to find the prime factors of 28.



Solution:
28 = ___ × ___ × ___

2. Use additional blank paper to make factor trees. Find the prime factors.
   a. 8
   b. 12
   c. 15
   d. 20

Solution:
a.
b.
c.
d.

   e. 22
   f. 24
   g. 27
   h. 36

Solution:
e.
f.
g.
h.

3. Write TRUE if the number given below can be a prime factor of a number. Otherwise, write FALSE.
   a. 2
   b. 3
   c. 4
   d. 5
   e. 6
   f. 7
   g. 8

Solution:
a.
b.
c.
d.
e.
f.
g.

4. Maxine says that prime factors of 50 are 2 × 25. Explain why she is incorrect. Make a factor tree to find the correct factors.

Solution:

5. Which of these can be a prime factor of any other number?
   A. 2 B. 4 C. 6 D. 9

Solution:

6. Which of these are the prime factors of 60?
   A. 2 × 2 × 5 × 5
   B. 2 × 2 × 3 × 5
   C. 4 × 3 × 5
   D. 2 × 3 × 3 × 5

Solution:

7. How do you know when a factor tree branch cannot have any more branches?

Solution:

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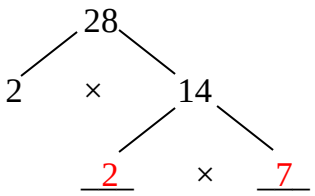
Answer Key

4.OA.B.4 Find all factor pairs for a whole number in the range 1-100

1. Complete the factor tree to find the prime factors of 28.



Solution:
28 = 2 × 2 × 7

2. Use additional blank paper to make factor trees. Find the prime factors.
   a. 8
   b. 12
   c. 15
   d. 20

Solution:
a. 2 × 2 × 2
b. 2 × 2 × 3
c. 3 × 5
d. 2 × 2 × 5

   e. 22
   f. 24
   g. 27
   h. 36

Solution:
e. 2 × 11
f. 2 × 2 × 2 × 3
g. 3 × 3 × 3
h. 2 × 2 × 3 × 3

3. Write TRUE if the number given below can be a prime factor of a number. Otherwise, write FALSE.
   a. 2
   b. 3
   c. 4
   d. 5
   e. 6
   f. 7
   g. 8

Solution:
a. TRUE
b. TRUE
c. FALSE
d. TRUE
e. FALSE
f. TRUE
g. FALSE

4. Maxine says that prime factors of 50 are 2 × 25. Explain why she is incorrect. Make a factor tree to find the correct factors.

Solution: 25 is not a prime number; 50 = 2 × 5 × 5

5. Which of these can be a prime factor of any other number?
   A. 2 B. 4 C. 6 D. 9

Solution: A

6. Which of these are the prime factors of 60?
   A. 2 × 2 × 5 × 5
   B. 2 × 2 × 3 × 5
   C. 4 × 3 × 5
   D. 2 × 3 × 3 × 5

Solution: B

7. How do you know when a factor tree branch cannot have any more branches?

Solution: If all branches become prime numbers