Math
Algebra

Answer Sheet
Greatest Common Factor: Easy

Greatest Common Factor (GCF) is the largest factor that divides two numbers.

Example: Find the greatest common factor of 6 and 10.

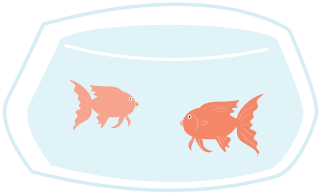
1. Find the prime factors of each number.

   6 = 2 x 3
   10 = 2 x 5

2. Find the common prime factors that 6 and 10 have.

   6 = 2 x 3
   10 = 2 x 5

3. The common prime factor of 6 and 10 is 2.



Circle the common factors of the pair of numbers, then answer the questions.

4 = 2 x 2
6 = 2 x 3

The common prime factor is: 2 .
The GCF is 2 .

6 = 2 x 3
9 = 3 x 3

The common prime factor is: 3 .
The GCF is 3 .

10 = 2 x 5
12 = 2 x 2 x 3

The common prime factor is: 2 .
The GCF is 2 .

14 = 2 x 7
35 = 5 x 7

The common prime factor is: 7 .
The GCF is 7 .

Greatest common factor can also be found by *multiplying all the common prime factors*. See the example.

18 = 2 x 3 x 3
12 = 2 x 2 x 3

The common prime factors are 2 and 3 .
The GCF is 2 x 3 = 6 .

20 = 2 x 2 x 5
30 = 2 x 3 x 5

The common prime factors are 2 and 5 .
The GCF is 2 x 5 = 10 .

Answer Sheet

Solve the word problems. Show your work and circle your answers.

1. Joey and his family are taking a road trip. On Monday, they travel 68 miles. On Tuesday, they travel 25. On Wednesday, they travel 33 miles. What is the average number of miles they drove per day?

$$\begin{array}{r} 68 \\ 25 \\ +\ 33 \\ \hline 126 \end{array} \qquad 3 \overline{)\,126} = 42$$

2. Joey has three brothers: Jonathan, Jacob, and Jack. Jacob is older than Jonathan but younger than Joey. Jack is younger than Jonathan. List the four boys in order from oldest to youngest.

Joey
Jacob
Jonathan
Jack

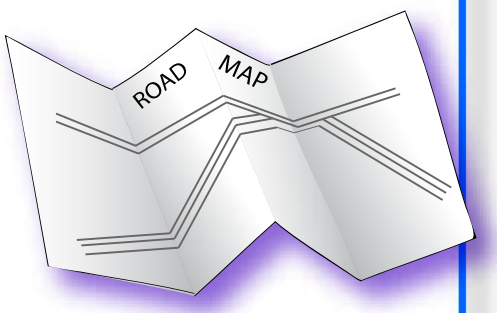
3. Joey wants to figure out how many minutes his family has spent on the road. On Monday, they traveled for 3 hours. They drove for 1 1/2 hours on Tuesday and another 1 1/2 hours on Wednesday. How many minutes have they traveled in all?

3 hours + 1 1/2 hours + 1 1/2 hours
= 6 hours

$$\begin{array}{r} 60 \text{ minutes} \\ \times\ 6 \text{ hours} \\ \hline 360 \text{ minutes} \end{array}$$

4. Joey and his family plan to visit the Grand Canyon, Yellowstone National Park, and the Washington Monument. They will travel 1,323 miles to get to the Grand Canyon. From there, they'll drive 846 miles to Yellowstone. Finally, they will travel 2,166 miles to get to the Washington Monument. How many miles will they travel altogether?

$$\begin{array}{r} 1{,}323 \\ 846 \\ +\ 2{,}166 \\ \hline 4{,}335 \end{array}$$

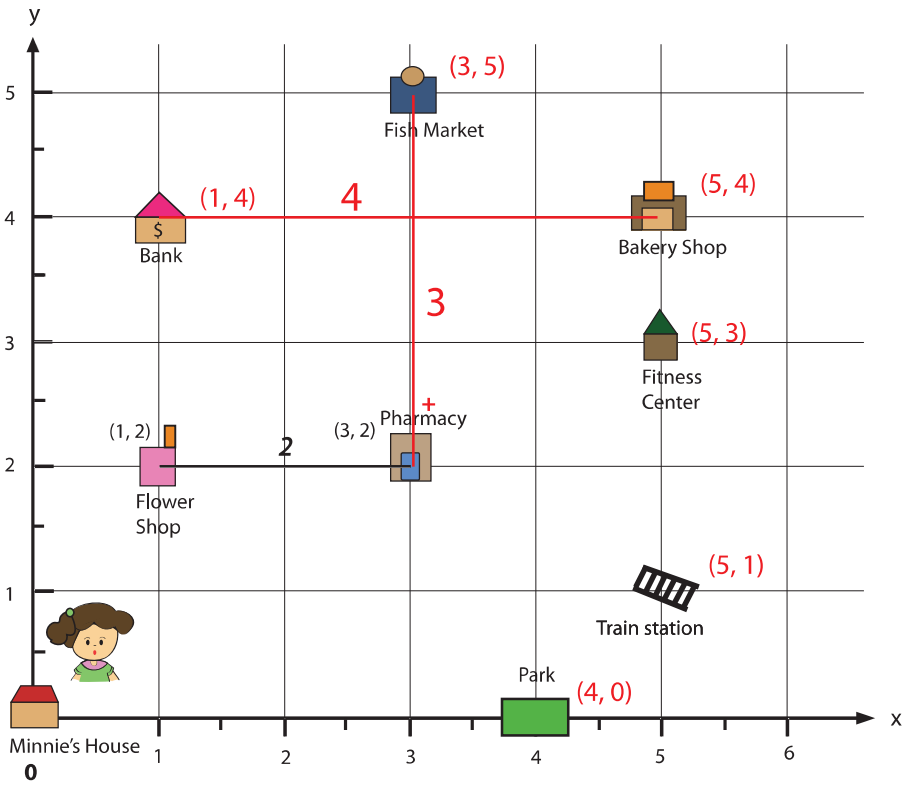


Answer Sheet

Answer Sheet
Run Errands Efficiently: Practice Coordinates

Help Minnie run errands by telling her how far it is between each location. To find the distances between the coordinates, subtract the x-values and/or the y-values (see an example).

Review: The first number refers to X coordinate. The second number refers to Y coordinate.



Example:
Distance between Pharmacy (3, 2) and Flower shop(1, 2). Subtract difference of X-value of each location. X value of Pharmacy = 3, X value of Flower shop = 1.
Therefore, the distance is 3 - 1 = 2.

1. How far between the pharmacy and the fish market? Pharmacy (3, 2) Fish Market (3, 5) 5 - 2 = 3

2. How far between the bank and the bakery shop? Bank (1, 4) Bakery (5, 4) 5 - 1 = 4

3. Which one is greater in distance - Minnie's house to the park, or the train station to the bakery shop? Minnie's House (0, 0) Park (4, 0) 4 - 0 = 4 Train Station (5, 1) Bakery (5, 4) 4 - 1 = 3 Minnie's House to the Park

4. If Minnie travels from the flower shop to the bank, then to the bakery shop, and stops at the fitness center, how far has she traveled?

Flower Shop (1, 2) Bank (1, 4) 4 - 2 = 2

Bank (1, 4) Bakery (5, 4) 5 - 1 = 4

Bakery (5, 4) Fitness Center (5, 3) 4 - 3 = 1

2 + 4 + 1 = 7

Answer Sheet

Answer Sheet

MATH FRACTIONS

Skill Practice 1

Finding the GCF

*The **greatest common factor (GCF)** is the largest whole number that divides evenly into multiple numbers.*
Look at the two numbers in each problem and find the greatest common factor between them. See the example below for a step by step process to finding the GCF.

Example

36	48
2	2
2	2
3	2
3	2
	3

2 x 2 x 3 = **12**
GCF

36 = 18 x 2 — 2 is a prime number and divides into 18 evenly 36 times.
36 = 9 x 2 x 2 — 18 can be divided by 2, leaving 9.
36 = 3 x 3 x 2 x 2 — 9 can be divided by 3, leaving 3. Now we have all prime numbers.

48 = 24 x 2
48 = 12 x 2 x 2
48 = 6 x 2 x 2 x 2
48 = 3 x 2 x 2 x 2 x 2

Once you find the prime factors of the second number, see which numbers they have in common. Circle and multiply them to get your GCF. If there are no prime factors in common, then the GCF is 1.

Numbers in common:
2, 2, 3

40	60
2	2
2	2
2	3
5	5

20
GCF

30	75
2	3
3	5
5	5

15
GCF

84	105
2	3
2	5
3	7
7	

21
GCF

56	96
2	2
2	2
2	2
7	2
	2
	3

8
GCF

18	25
2	5
3	5
3	

1
GCF

50	125
2	5
5	5
5	5

25
GCF

72	108
2	2
2	2
2	3
3	3
3	3

18
GCF

56	112
2	2
2	2
2	2
7	2
	7

28
GCF

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Prime Factorization

Factors are numbers that you multiply together to get another number. When a factor is a prime number, it is called a prime factor. For example, the prime factors of 12 are 2 x 2 x 3. So 2, 2, and 3 are prime factors of 12.

Find the prime factors of the numbers below. See the example.

16 = 2 x 8
= 2 x 2 x 4
= 2 x 2 x 2 x 2

---

36 = 4 x 9
= 2 x 2 x 3 x 3

---

48 = 4 x 12
= 2 x 2 x 2 x 6
= 2 x 2 x 2 x 2 x 3

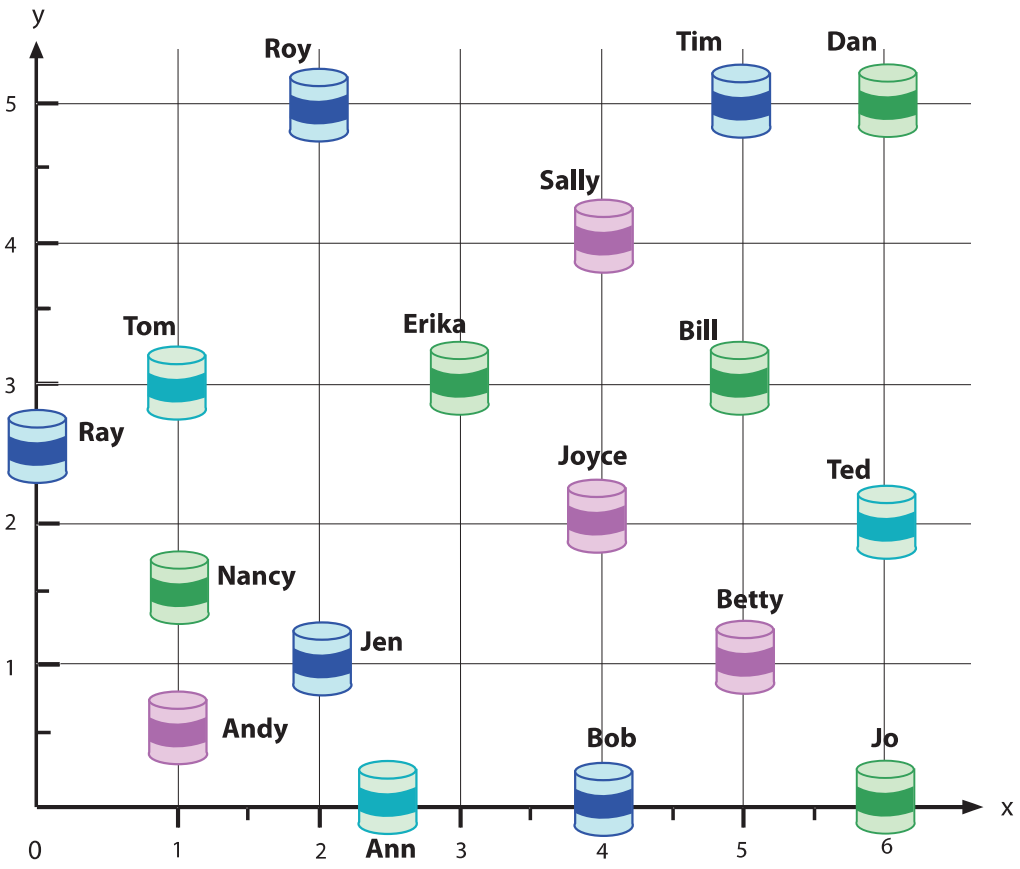
---

56 = 7 x 8
= 7 x 2 x 4
= 7 x 2 x 2 x 2

Answer Sheet

Answer Sheet
Time Capsules: Practice Coordinates

Your friends need your help in writing code to show where they buried their time capsules, so later they will remember where they are.



Roy = (2, 5)
Bill = (5, 3)
Jo = (6, 0)
Andy = (1, 0.5)
Tom = (1, 3)
Jen = (2, 1)
Ray = (0, 2.5)
Betty = (5, 1)
Tim = (5, 5)
Erika = (3, 3)
Joyce = (4, 2)
Dan = (6, 5)
Ann = (2.5, 0)
Nancy = (1, 1.5)
Ted = (6, 2)
Bob = (4, 0)
Sally = (4, 4)

Answer Sheet

Answer Sheet

My Lunch Box: Practice Coordinates

Use the coordinates that go with the ingredients to find the letters that spell out what is in the lunch box.

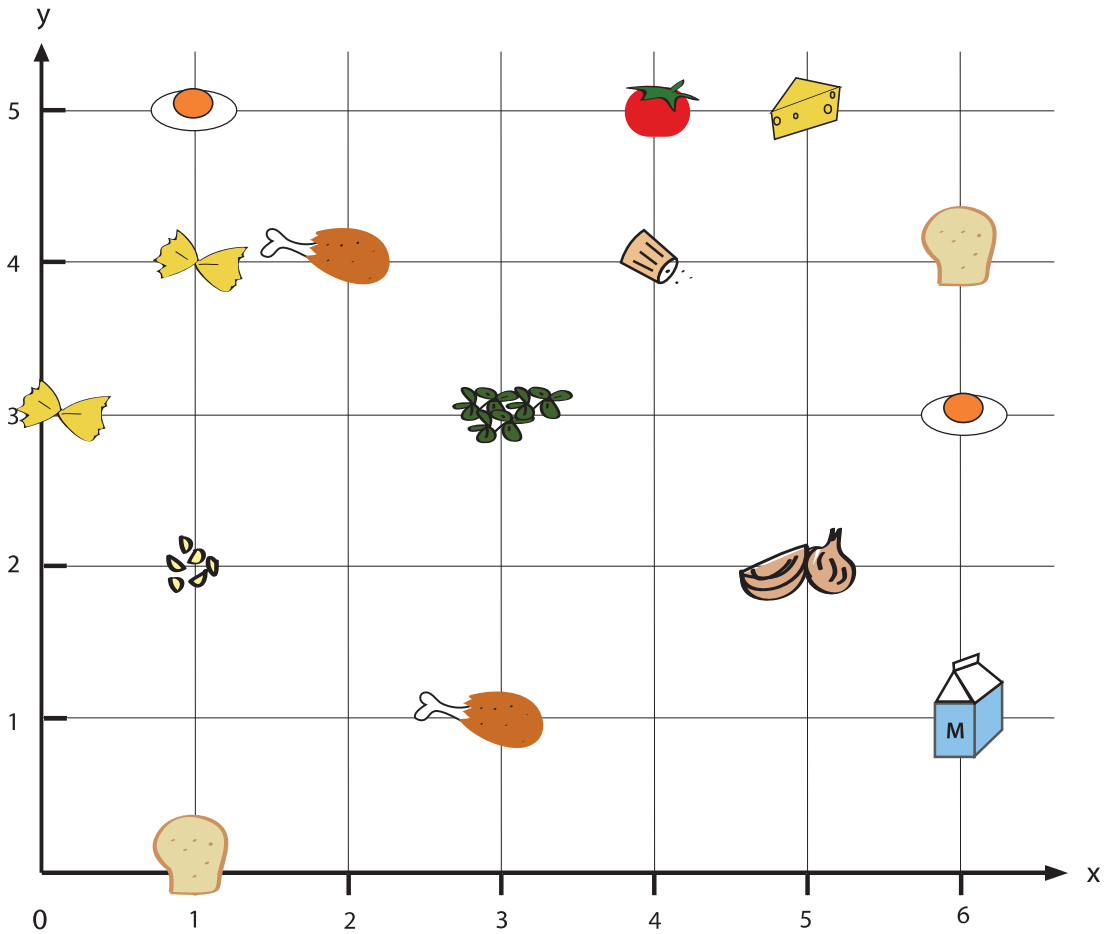
Ingredients

= A = C = E = H = I = K

= M = N = P = R = S

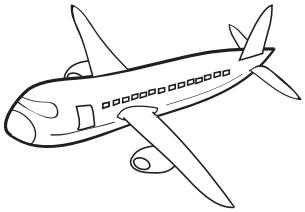
Coordinates

1. (2, 4)	4. (3, 1)	7. (6, 3)	10. (3, 3)	13. (4, 4)
2. (5, 2)	5. (5, 5)	8. (4, 5)	11. (6, 1)	14. (6, 4)
3. (1, 2)	6. (0, 3)	9. (1, 0)	12. (1, 4)	15. (1, 5)



Answer: CHICKEN PARMESAN

Answer Sheet



Answer Sheet

Air Show: Practice Coordinates

The pilots practice flying skills to prepare for the upcoming air show. Help each pilot organize his positions by plotting his coordinates in the grid below and drawing a line to connect each dot of his route. Use a different color for each pilot.

Pilot A

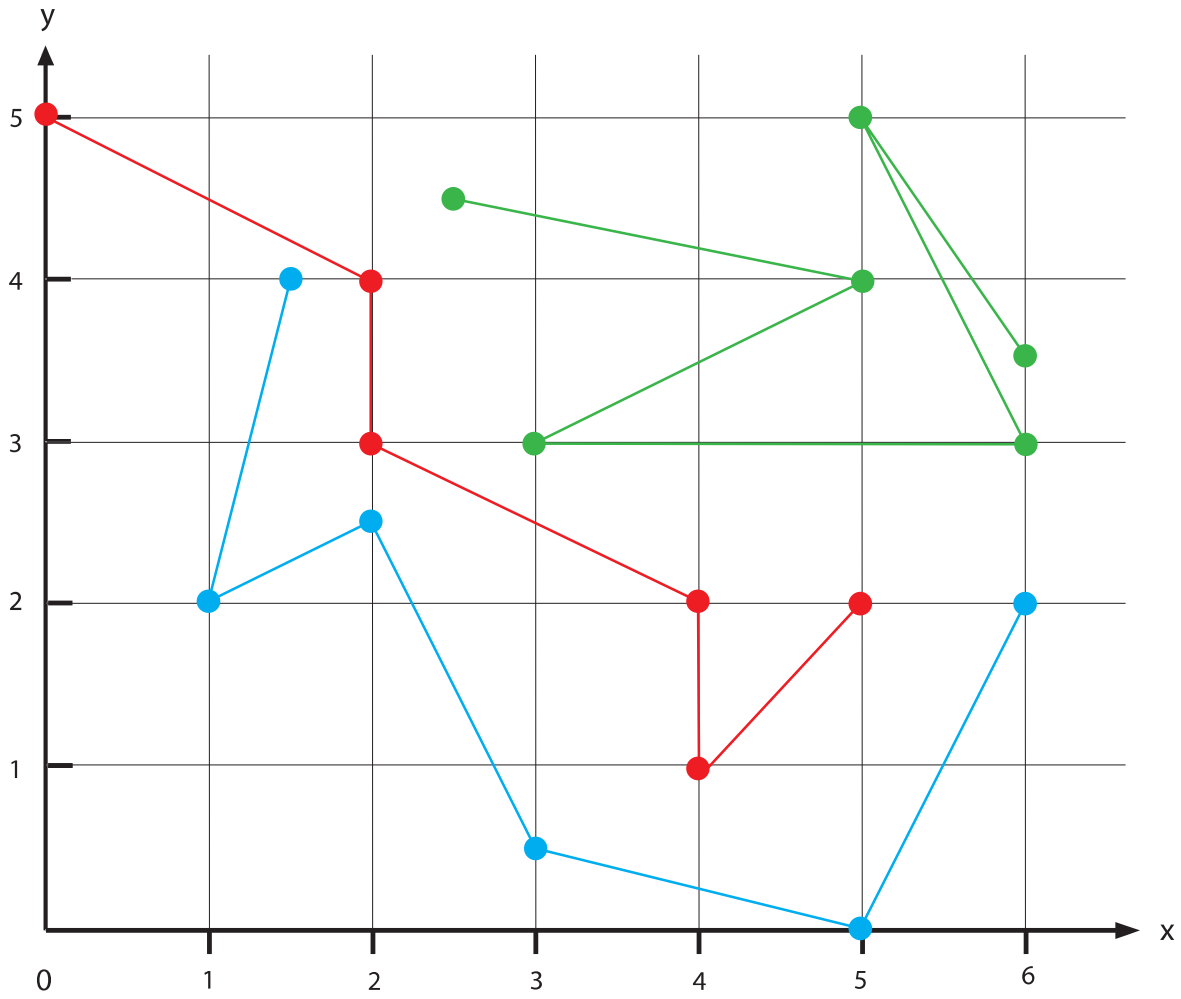
1. (0, 5)
2. (2, 4)
3. (2, 3)
4. (4, 2)
5. (4, 1)
6. (5, 2)

Pilot B

1. (2.5, 4.5)
2. (5, 4)
3. (3, 3)
4. (6, 3)
5. (5, 5)
6. (6, 3.5)

Pilot C

1. (1.5, 4)
2. (1, 2)
3. (2, 2.5)
4. (3, 0.5)
5. (5, 0)
6. (6, 2)



Answer Sheet

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Answer Sheet
Least Common Multiple: Hard

A *multiple* is the product of two integers. To find the multiples of a certain number, multiply that number by every integer, starting with 1.
Example: Multiples of 10 are 10, 20, 30, 40, 50, and so on.

Common multiples are numbers that share two or more of the same multiples.
Example: Multiples of 10 are 10, 20, 30, 40, 50, 60, and so on.
Multiples of 15 are 15, 30, 45, 60, 75, and so on.
30 and 60 appears in these lists, so they are common multiples of 10 and 15.

Least common multiple (LCM) is the smallest common multiple of two or more numbers.
From the example above, the LCM of 10 and 15 is 30.
LCM can be found by listing all the multiples and looking for the smallest common one in the lists.

Find the least common multiple of numbers below. Follow the directions.

Multiples of 9 = 9, 18, 27, 36, 45, 54, ...

Multiples of 15 = 15, 30, 45, 60, 75, 90, ...

The common multiple is 45. The LCM is 45.

Multiples of 20 = 20, 40, 60, 80, 100, 120, ...

Multiples of 30 = 30, 60, 90, 120, 150, 180, ...

The common multiples are 60 and 120. The LCM is 60.

Multiples of 10 = 10, 20, 30, 40, 50, 60, ...

Multiples of 20 = 20, 40, 60, 80, 100, 120, ...

Multiples of 50 = 50, 100, 150, 200, 250, 300, ...

The common multiples are 100. The LCM is 100.

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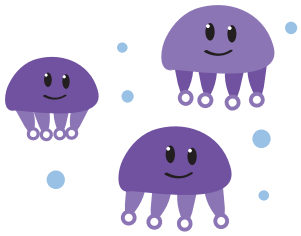
Answer Sheet
Greatest Common Factor: Hard

Greatest Common Factor (GCF) is the largest factor that divides two numbers.

Example: Find the greatest common factor of 24 and 18.



1. Find the prime factors of each number.

$24 = 6 \times 4 = 2 \times 3 \times 2 \times 2$ $\qquad$ $18 = 6 \times 3 = 2 \times 3 \times 3$

2. Find the common prime factors of 24 and 18.

$24 = 2 \times 3 \times 2 \times 2$

$18 = 2 \times 3 \times 3$

3. The common prime factors of 24 and 18 are 2 and 3. The greatest common factor can be found by *multiplying all the common prime factors*. Therefore, the greatest common factor of 24 and 18 is 2 x 3 = 6.

Find the greatest common factor of the numbers below.

$30 = 3 \times 2 \times 5$

$45 = 3 \times 3 \times 5$

The common prime factors are: 3 and 5 . The GCF is 15 .

$36 = 3 \times 2 \times 2 \times 3$

$42 = 7 \times 2 \times 3$

The common prime factors are: 2 and 3 . The GCF is 6 .

$120 = 2 \times 2 \times 3 \times 5 \times 2$

$100 = 2 \times 5 \times 2 \times 5$

The common prime factors are: 2, 2 and 5 . The GCF is 2 x 2 x 5 = 20 .