

The slide features a light beige background with a blue grid pattern in the top-left and bottom-right corners. A dark blue rectangular area is positioned on the left side, containing the text. A vertical red bar is located on the far left edge of the slide.

Algebra 1

Chapter 8
Section 8-5A

Factors

The factors of a given number are all the whole numbers that can multiply by another whole number to get to the given number.

For example:

The factors of 16 are 1, 2, 4, 8, and 16 because

$$1 \cdot 16 = 16$$

$$2 \cdot 8 = 16$$

$$4 \cdot 4 = 16 \text{ (we only list 4 once in the list of factors)}$$

Tricks to Finding Factors

What are the factors of 80?

Make a list of pairs:

1, 80

2, 40

4, 20

5, 16

8, 10

What are the factors of:

11?

17?

25?

54?

72?

38?

10?

51?

40?

160?

1, 11

1, 5, 25

6, 8, 9, 12, 18, 24, 36, 72

1, 2, 19, 38

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

8, 10, 16, 20, 32, 40, 80, 160

1, 2, 5, 10

1, 2, 3, 6, 9, 18, 27, 54

1, 17

1, 2, 3, 4,

1, 3, 17, 51

1, 2, 4, 5,

Using Factors

Two numbers multiply together to get 45 and add together to get 18.
What are the two numbers?

***What equals 45?*

1, 45
3, 15
5, 9

$$3 + 15 = 18$$

Two numbers multiply together to get 36 and add together to get 13.
What are the two numbers?

***What equals 36?*

1, 36
2, 18
3, 12
4, 9
6, 6

$$4 + 9 = 13$$

Using Negative Factors

Two numbers multiply together to get -22 and add together to get -9. What are the two numbers?

What multiplies to a positive?

+ and +?

- and -?

+ and -?

Use + and -! Bigger one is -!

1, -22

2, -11

$$2 - 11 = -9$$

Two numbers multiply together to get 63 and add together to get -16. What are the two numbers?

What multiplies to a positive?

+ and +?

- and -?

+ and -?

Use - and -!

-1, -63

-3, -21

-7, -9

$$-7 - 9 = -16$$