Problem 03

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| SBRC Lesson | 086 Adding and Subtracting Fractions with Different Denominators |
| Complexity | A |
| Standard | 5.NF.1, 5.NBT.6 |
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| Editor |  |

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| --- |
| Evaluate the expression for х = 2.  Answer: [exp] |

# Datasets

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| --- | --- | --- | --- |
|  |  |  | Answers |
| 0 |  |  | 8/21 |
| 1 |  |  | 16/21 |
| 2 |  |  | 8/15 |

**Hint 1**

Replace the letter x with the given number, then calculate.

**Hint 2**

To add or subtract two fractions with different denominators, bring them to the least common denominator (LCD), then add or subtract.

**Solution**

[IS 1]

We need to evaluate the expression for х = 2.

1. Replace the letter x with the given number

[IS 2]

1. Calculate 2/21+7/21.

We need[[1]](#footnote-3) to bring these fractions to their **least common denominator** before adding.

[IS 3]

To find the least common denominator, we need to find the smallest natural number divisible by both 21 and 7.

The first few natural numbers divisible by larger denominator 21 are 21, 42, 63, …[[2]](#footnote-4)

[IS 4]

Among these numbers, the smallest that is divisible by 7 is 21[[3]](#footnote-5). [?]

21÷7 =3

[IS 5]

The least common denominator of 2/21 and 2/7 is 21[[4]](#footnote-6).

[IS 6]

1. Bring the fractions 2/21 and 2/7 to the least common denominator 21.

[IS 7]

The denominator of 2/21 is already 21.

[IS 8]

Bring 2/7 to the denominator of 21:

[?]

The complementary factor of 2/7 is 21÷7.

Multiply the numerator of 2/7 by the complementary factor.

[IS 8]

1. Rewrite the sum using the denominator 21 and calculate:

= [?]

To add two fractions with the same denominator, add the numerators and keep the denominator the same.

[IS 9]

Answer: 8/21

1. [need to // do not need to] [↑](#footnote-ref-3)
2. [7, 14, 21, … // 21, 42, 64, …] [↑](#footnote-ref-4)
3. [] [↑](#footnote-ref-5)
4. [] [↑](#footnote-ref-6)