


Fractions


Interview Screens

These are the questions as they appear on the computer screen. It's helpful preparation to review the questions, prompts, and explanations before interviewing students.

 Math Reasoning Inventory
J, MB
Fractions Interview

1 Question 1

$$\frac{3}{8} \quad \frac{5}{6}$$

 Which is greater, $\frac{3}{8}$ or $\frac{5}{6}$?


2 Answer

Correct (5/6)

Incorrect

Self-corrected (5/6)

Did Not Answer

3 Explanation  How did you decide?

- Converted to common denominators
- Compared to $\frac{1}{2}$ or 50%, or 1 or 100% (e.g., $\frac{5}{6}$ is more than $\frac{1}{2}$ and $\frac{3}{8}$ is less than $\frac{1}{2}$)
- Explained that eighths are smaller than sixths and there are fewer eighths
- Converted to decimals or percents
- Gave other reasonable explanation
- Guessed, did not explain, or gave faulty explanation

Notes

record student response

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End Interview

Fractions Interview Question 1 of 12

1 Question 2

$$\frac{5}{12} \quad \frac{5}{8}$$

Which is greater, $\frac{5}{12}$ or $\frac{5}{8}$?

2 Answer

- Correct (5/8)
- Incorrect
- Self-corrected (5/8)
- Did Not Answer

3 Explanation How did you decide?

- Converted to common denominators
- Compared to $\frac{1}{2}$ or 50%, or 1 or 100% (e.g., $\frac{5}{12}$ is less than $\frac{1}{2}$ and $\frac{5}{8}$ is greater than $\frac{1}{2}$)
- Explained that eighths are larger than twelfths
- Converted to decimals or percents
- Gave other reasonable explanation
- Guessed, did not explain, or gave faulty explanation

Notes

record student response

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Save and Exit End Interview

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Fractions Interview Question 2 of 12

1 Question 3

$$\frac{7}{12} \quad \frac{2}{5}$$

Which is greater, $\frac{7}{12}$ or $\frac{2}{5}$?

2 Answer

- Correct (7/12)
- Incorrect
- Self-corrected (7/12)
- Did Not Answer

3 Explanation How did you decide?

- Converted to common denominators
- Compared to $\frac{1}{2}$ or 50%, or 1 or 100% (e.g., $\frac{7}{12}$ is greater than $\frac{1}{2}$ and $\frac{2}{5}$ is less than $\frac{1}{2}$)
- Converted to decimals or percents
- Gave other reasonable explanation
- Guessed, did not explain, or gave faulty explanation

Notes

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Save and Exit End Interview

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Fractions Interview Question 3 of 12

1 Question 4

$$\frac{11}{12} + \frac{1}{5}$$

Is the answer to $\frac{11}{12}$ plus $\frac{1}{5}$ greater than 1 or less than 1?

2 Answer

- Correct (greater)
- Incorrect
- Self-corrected (greater)
- Did Not Answer

3 Explanation How did you decide?

- Converted to common denominators
- Explained that $\frac{11}{12}$ is $\frac{1}{12}$ away from 1 and $\frac{1}{5}$ is greater than $\frac{1}{12}$
- Reasoned with decimals or percents
- Gave other reasonable explanation
- Guessed, did not explain, or gave faulty explanation

Notes

record student response

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Fractions Interview Question 4 of 12

1 Question 5

$$\frac{8}{9} + \frac{12}{13}$$

$\frac{1}{2}$ 1 2 8

For this problem, don't figure out the exact answer. Decide which of these choices is the best estimate for $\frac{8}{9}$ plus $\frac{12}{13}$: $\frac{1}{2}$, 1, 2, or 8?

2 Answer

- Correct (2)
- Incorrect
- Self-corrected (2)
- Did Not Answer

3 Explanation How did you decide?

- Rounded one or both fractions to 1 and then added
- Analyzed choices and chose one that seemed most reasonable
- Gave other reasonable explanation
- Guessed, did not explain, or gave faulty explanation

Notes

record student response

◀ 1 2 3 4 5 6 7 8 9 10 11 12 ▶

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Save and Exit End Interview

Fractions Interview Question 5 of 12

1 Question 6

$$1\frac{3}{8} - \frac{4}{5}$$

Is the answer to $1\frac{3}{8} - \frac{4}{5}$ greater than 1 or less than 1?

2 Answer

- Correct (less)
 Incorrect
 Self-corrected (less)
 Did Not Answer

3 Explanation How did you decide?

- Converted to common denominators
 Explained that $\frac{4}{5}$ is close to 1, and $\frac{3}{8}$ is less than $\frac{1}{2}$, so answer must be less than 1
 Explained that $\frac{4}{5}$ is greater than $\frac{3}{8}$, so answer must be less than 1
 Explained that $\frac{3}{8}$ is less than $\frac{1}{2}$ and $\frac{4}{5}$ is greater than $\frac{1}{2}$
 Reasoned with decimals or percents
 Gave other reasonable explanation
 Guessed, did not explain, or gave faulty explanation

Notes

record student response

◀ 1 2 3 4 5 6 7 8 9 10 11 12 ▶

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End Interview

Fractions Interview Question 6 of 12

1 Question 7

$$\frac{3}{4} + \underline{\quad} = 2\frac{1}{2}$$

Figure out the missing number.

2 Answer

- Correct (1 3/4)
 Incorrect
 Self-corrected (1 3/4)
 Did Not Answer

3 Explanation How did you figure out the answer?

- Used standard algorithm to subtract
 Subtracted without using standard algorithm (e.g., $2\frac{1}{2} - \frac{1}{2}$ and then $2 - \frac{1}{4}$)
 Added up (e.g., $\frac{3}{4} + \frac{1}{4}$ and then $1 + 1\frac{1}{2}$)
 Gave other reasonable explanation
 Guessed, did not explain, or gave faulty explanation

Notes

record student response

◀ 1 2 3 4 5 6 7 8 9 10 11 12 ▶

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End Interview

Fractions Interview Question 7 of 12

1 Question 8

$$3\frac{1}{2} \times 2$$

What is 3 1/2 times 2?

2 Answer

- Correct (7 or 14/2)
- Incorrect
- Self-corrected (7 or 14/2)
- Did Not Answer

3 Explanation How did you figure out the answer?

- Used standard algorithm to multiply
- Converted to decimals
- Figured 3×2 (or $3 + 3$) = 6, $1/2 \times 2$ (or $1/2 + 1/2$) = 1, and then added $6 + 1$
- Gave other reasonable explanation
- Guessed, did not explain, or gave faulty explanation

Notes

record student response

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Fractions Interview Question 8 of 12

1 Question 9

$$1\frac{1}{2} \times \underline{\quad} = 6$$

Figure out the missing number.

2 Answer

- Correct (4)
- Incorrect
- Self-corrected (4)
- Did Not Answer

3 Explanation How did you figure out the answer?

- Used standard algorithm to divide
- Multiplied $4 \times 1 = 4$ and then $4 \times 1/2 = 2$
- Multiplied $1\frac{1}{2} \times 2$ and then doubled to get 4
- Added ($1\frac{1}{2} + 1\frac{1}{2} + 1\frac{1}{2} + 1\frac{1}{2} = 6$)
- Used trial and error
- Converted to decimals
- Gave other reasonable explanation
- Guessed, did not explain, or gave faulty explanation

Notes

record student response

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Fractions Interview Question 9 of 12

1 Question 10

Carlos lives $\frac{3}{4}$ of a mile from school. Terrell lives $\frac{6}{8}$ of a mile from school. Which of these is correct?
 • Both boys live the same distance from school.
 • One boy lives farther from school.

Carlos lives $\frac{3}{4}$ of a mile from school. Terrell lives $\frac{6}{8}$ of a mile from school. Which of these is correct? Both boys live the same distance from school. One boy lives farther from school.

2 Answer

- Correct (Same)
- Incorrect
- Self-corrected (Same)
- Did Not Answer

3 Explanation How did you decide?

- Explained that the fractions are equivalent
- Multiplied or divided numerator and denominator by same number
- Reasoned with decimals or percents
- Gave other reasonable explanation
- Guessed, did not explain, or gave faulty explanation

Notes

record student response

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Fractions Interview Question 10 of 12

1 Question 11

James baked three kinds of cookies. He used $\frac{3}{4}$ of a cup of sugar for each kind. How much sugar did he use altogether?

Here is a word problem. James baked three kinds of cookies. He used $\frac{3}{4}$ cup of sugar for each kind. How much sugar did he use altogether? Figure it out in your head or use paper and pencil.

2 Answer

- Correct (2 $\frac{1}{4}$ or $\frac{9}{4}$ cups)
- Incorrect
- Self-corrected (2 $\frac{1}{4}$ or $\frac{9}{4}$ cups)
- Did Not Answer

3 Explanation How did you figure out the answer?

- Added $\frac{3}{4} + \frac{3}{4} + \frac{3}{4}$
- Multiplied $3 \times \frac{3}{4}$
- Added $1 + 1 + 1$ and then subtracted $\frac{3}{4}$
- Reasoned with decimals or percents
- Gave other reasonable explanation
- Guessed, did not explain, or gave faulty explanation

Notes

record student response

◀ 1 2 3 4 5 6 7 8 9 10 11 12 ▶

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Fractions Interview Question 11 of 12

1 Question 12

I have $2\frac{1}{2}$ pounds of hamburger meat. Each hamburger uses $\frac{1}{4}$ of a pound. How many hamburgers can I make?

Here is another word problem. I have $2\frac{1}{2}$ pounds of hamburger meat. Each hamburger uses $\frac{1}{4}$ of a pound. How many hamburgers can I make? Figure it out in your head or use paper and pencil.

2 Answer

- Correct (10 Hamburgers)
- Incorrect
- Self-corrected (10 Hamburgers)
- Did Not Answer

3 Explanation How did you figure out the answer?

- Used standard algorithm to divide
- Calculated the number of $\frac{1}{4}$ s in $2\frac{1}{2}$ pounds
- Converted $2\frac{1}{2}$ to $\frac{10}{4}$
- Reasoned with decimals or percents
- Gave other reasonable explanation
- Guessed, did not explain, or gave faulty explanation

Notes

record student response

◀ 1 2 3 4 5 6 7 8 9 10 11 12 ▶

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Fractions Interview Question 12 of 12