Name:

Exam Style Questions

Fractions: Midpoint

Corbettmaths

Equipment needed: Calculator, pen

Guidance

1. Read each question carefully before you begin answering it.
2. Check your answers seem right.
3. Always show your workings

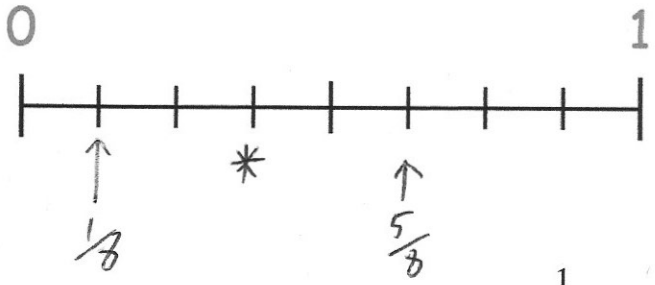
Video Tutorial

www.corbettmaths.com/contents

Video 141a

Answers and Video Solutions

1.



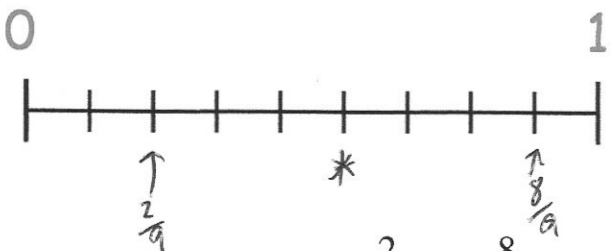
Work out the fraction that is exactly halfway between $\frac{1}{8}$ and $\frac{5}{8}$

3/8

.....

(1)

2.



Find the fraction that is halfway between $\frac{2}{9}$ and $\frac{8}{9}$

5/9

.....

(1)

3. Work out the fraction that is halfway between $\frac{2}{15}$ and $\frac{12}{15}$

$\frac{2}{15} + \frac{12}{15} = \frac{14}{15}$

$\frac{14}{15} \div 2 = \frac{7}{15}$

$\frac{7}{15}$

.....

(2)

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4. Find the midpoint of $\frac{11}{20}$ and $\frac{19}{20}$

$\frac{11}{20} + \frac{19}{20} = \frac{30}{20}$

$\frac{30}{20} \div 2 = \frac{15}{20}$

$\frac{3}{4}$

.....

(2)

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5. Work out the fraction that is halfway between $\frac{17}{50}$ and $\frac{41}{50}$

$\frac{17}{50} + \frac{41}{50} = \frac{58}{50}$

$\frac{58}{50} \div 2 = \frac{29}{50}$

$\frac{29}{50}$

.....

(2)

6. Find the midpoint between $\frac{1}{5}$ and $1\frac{2}{5}$

$\frac{1}{5}$ and $\frac{7}{5}$

$\frac{1}{5} + \frac{7}{5} = \frac{8}{5}$

$\frac{8}{5} \div 2 = \frac{4}{5}$

$\frac{4}{5}$

.....

(2)

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7. Find the midpoint of $\frac{1}{4}$ and $\frac{17}{20}$

$\frac{5}{20} + \frac{17}{20} = \frac{22}{20}$

$\frac{22}{20} \div 2 = \frac{11}{20}$

$\frac{11}{20}$

.....

(2)

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8. Work out the fraction that is halfway between $\frac{2}{3}$ and $\frac{4}{9}$

$\frac{6}{9}$ and $\frac{4}{9}$

$\frac{5}{9}$

.....

(2)

9. Find the number that is halfway between $\frac{4}{15}$ and $2\frac{2}{3}$

$\frac{4}{15}$ and $\frac{8}{3}$

$\frac{4}{15}$ and $\frac{40}{15}$

$\frac{44}{15} \div 2 = \frac{22}{15}$

$\frac{7}{15}$

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(3)

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10. Find the fraction that is halfway between $\frac{1}{2}$ and $\frac{1}{8}$

$\frac{4}{8} + \frac{1}{8} = \frac{5}{8}$

$\frac{5}{8} \div 2 = \frac{5}{16}$

$\frac{5}{16}$

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(2)

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11. Find the number that is halfway between $\frac{2}{3}$ and $\frac{7}{8}$

$\frac{16}{24} + \frac{21}{24} = \frac{37}{24}$

$\frac{37}{24} \div 2 = \frac{37}{48}$

$\frac{37}{48}$

.....

(2)

12. Calculate the midpoint of $\frac{19}{40}$ and $\frac{5}{6}$

$\frac{19}{40} + \frac{5}{6} = \frac{157}{120}$

$\frac{157}{120} \div 2 = \frac{157}{240}$

$\frac{157}{240}$

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(2)

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13. Find the number that is halfway between $\frac{3}{10}$ and $\frac{3}{4}$

$\frac{3}{10}$ $\frac{3}{4}$

$\frac{6}{20} + \frac{15}{20} = \frac{21}{20}$

$\frac{21}{20} \div 2 = \frac{21}{40}$ $\frac{21}{40}$

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(2)

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14. Calculate the midpoint of $3\frac{2}{5}$ and $6\frac{7}{12}$

$\frac{17}{5}$ $\frac{79}{12}$

$\frac{204}{60} + \frac{395}{60} = \frac{599}{60}$

$\frac{599}{60} \div 2 = \frac{599}{120}$

$4\frac{119}{120}$

.....

(2)

15. Ryan says that the midpoint of $\frac{3}{20}$ and $\frac{11}{20}$ is $\frac{7}{10}$

Is Ryan correct?
Explain your answer.

$\frac{3}{20} + \frac{11}{20} = \frac{14}{20}$

$\frac{14}{20} \div 2 = \frac{7}{20}$

No, Ryan has divided the denominator by 2.
The answer is $\frac{7}{20}$.

(2)

16. Emily and Neela think of two different fractions.

The midpoint of the two fractions is $\frac{2}{3}$

Emily says her fraction is $\frac{1}{2}$

What fraction is Neela thinking of?

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

$\frac{4}{6} - \frac{3}{6} = \frac{1}{6}$

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

$\frac{2}{3} + \frac{1}{6}$

$\frac{4}{6} + \frac{1}{6} = \frac{5}{6}$

$\frac{5}{6}$

(3)

17. Otis and Cleo think of two different fractions.

The midpoint of the two fractions is $1\frac{5}{8}$ $\frac{13}{8}$

Otis says his fraction is $\frac{9}{10}$

What fraction is Cleo thinking of?

$\frac{13}{8} \times \frac{9}{10}$

$\frac{13}{8} - \frac{9}{10} = \frac{29}{40}$

$\frac{13}{8} + \frac{29}{40} = \frac{47}{20}$

$2\frac{7}{20}$

.....

(3)

18.

$\frac{1}{2}$	$\frac{3}{10}$	$\frac{5}{21}$	$\frac{2}{5}$	$\frac{4}{9}$	$\frac{1}{3}$
0.5	0.3	$\approx$ 0.25	0.4	0.44..	0.33..

Work out the median

$\frac{5}{21}$ $\frac{3}{10}$ $\frac{1}{3}$ $\frac{2}{5}$ $\frac{4}{9}$ $\frac{1}{2}$

$\frac{5}{15}$ $\frac{6}{15}$

$\frac{5}{15} + \frac{6}{15} = \frac{11}{15}$

$\frac{11}{15} \div 2 = \frac{11}{30}$

$\frac{11}{30}$

.....

(3)

19. x is the midpoint of $1\frac{2}{5}$ and $\frac{3}{10}$

The midpoint of x and y is $\frac{2}{3}$

Find the value of y.

$\frac{7}{5} + \frac{3}{10}$

$\frac{14}{10} + \frac{3}{10} = \frac{17}{10}$

$\frac{17}{10} \div 2 = \frac{17}{20}$

$\frac{17}{20} > \frac{2}{3}$

$\frac{17}{20} - \frac{2}{3}$

$\frac{51}{60} - \frac{40}{60} = \frac{11}{60}$

$\frac{2}{3} - \frac{11}{60}$

$\frac{40}{60} - \frac{11}{60} = \frac{29}{60}$

$\frac{29}{60}$

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