

Finding the Midpoint

Name: _____ Date: _____ Score: _____ / 18

Quick Review and Helpful Hints

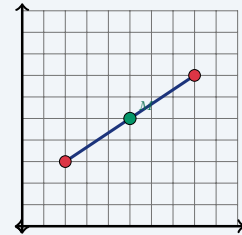
The midpoint of a segment is the *average* of the endpoints' coordinates: $M = \left(\frac{x_1 + x_2}{2}, \frac{y_1 + y_2}{2} \right)$. Add the two x -values and divide by 2 for the x -coordinate; do the same with the two y -values for the y -coordinate.

▶ **Example:** Find the midpoint between (2, 3) and (8, 7).

Work: Average the x -values: $\frac{2 + 8}{2} = 5$. Average the y -values:

$$\frac{3 + 7}{2} = 5.$$

★ **Answer:** (5, 5)



Midpoint of (2, 3) and (8, 7) is (5, 5).

◆ Practice Problems

Find the midpoint of the segment with the given endpoints.

- | | |
|--|---|
| <p>1. (0, 0) and (4, 6) _____</p> <p>2. (1, 2) and (5, 8) _____</p> <p>3. (2, 4) and (6, 10) _____</p> <p>4. (-2, 3) and (4, 7) _____</p> <p>5. (0, 5) and (10, 5) _____</p> <p>6. (3, 1) and (9, 7) _____</p> <p>7. (-4, -2) and (2, 6) _____</p> | <p>8. (1, 1) and (7, 9) _____</p> <p>9. (5, 2) and (5, 10) _____</p> <p>10. (0, 0) and (8, 8) _____</p> <p>11. (-6, 4) and (2, -4) _____</p> <p>12. (3, 7) and (11, 3) _____</p> <p>13. (2, -3) and (8, 5) _____</p> <p>14. (-1, -1) and (5, 7) _____</p> |
|--|---|

◆ Word Problems

15. On a map, a road runs from town A at (2, 4) to town B at (10, 8). Where is the rest stop placed exactly halfway between them? _____
16. Two friends stand at (1, 3) and (7, 9). They agree to meet at the midpoint. What point is that? _____
17. A bridge spans from (-4, 2) to (6, 2). Find the midpoint of the bridge. _____
18. The endpoints of a circle's diameter are (0, -2) and (8, 6). The center is the midpoint. Find the center. _____



Answer Keys

- | | | |
|-----------|-------------|------------|
| 1. (2, 3) | 7. (-1, 2) | 13. (5, 1) |
| 2. (3, 5) | 8. (4, 5) | 14. (2, 3) |
| 3. (4, 7) | 9. (5, 6) | 15. (6, 6) |
| 4. (1, 5) | 10. (4, 4) | 16. (4, 6) |
| 5. (5, 5) | 11. (-2, 0) | 17. (1, 2) |
| 6. (6, 4) | 12. (7, 5) | 18. (4, 2) |

Step-by-Step Explanations

1. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is The midpoint averages the two x 's and the two y 's: $\frac{0+4}{2} = 2$ and $\frac{0+6}{2} = 3$, so (2, 3). So the final answer is (2, 3).

2. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $\frac{1+5}{2} = 3$ and $\frac{2+8}{2} = 5$, giving (3, 5). So the final answer is (3, 5).

3. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $\frac{2+6}{2} = 4$ and $\frac{4+10}{2} = 7$, so (4, 7). So the final answer is (4, 7).

4. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Average even with a negative: $\frac{-2+4}{2} = 1$ and $\frac{3+7}{2} = 5$. So the final answer is (1, 5).

5. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $\frac{0+10}{2} = 5$ and $\frac{5+5}{2} = 5$, so (5, 5). So the final answer is (5, 5).

6. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $\frac{3+9}{2} = 6$ and $\frac{1+7}{2} = 4$. So the final answer is (6, 4).

7. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $\frac{-4+2}{2} = -1$ and $\frac{-2+6}{2} = 2$, giving (-1, 2). So the final answer is (-1, 2).

8. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $\frac{1+7}{2} = 4$ and $\frac{1+9}{2} = 5$. So the final answer is (4, 5).

9. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Same x , so it stays 5; for y , $\frac{2+10}{2} = 6$. So the final answer is (5, 6).

10. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $\frac{0+8}{2} = 4$ for both, so (4, 4). So the final answer is (4, 4).

11. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $\frac{-6+2}{2} = -2$ and $\frac{4+(-4)}{2} = 0$. So the final answer is (-2, 0).

12. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $\frac{3+11}{2} = 7$ and $\frac{7+3}{2} = 5$. So the final answer is (7, 5).

13. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $\frac{2+8}{2} = 5$ and $\frac{-3+5}{2} = 1$. So the final answer is (5, 1).

14. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $\frac{-1+5}{2} = 2$ and $\frac{-1+7}{2} = 3$. So the final answer is (2, 3).

15. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is The rest stop is the midpoint: $(\frac{2+10}{2}, \frac{4+8}{2}) = (6, 6)$. So the final answer is (6, 6).

16. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Meet at the midpoint: $(\frac{1+7}{2}, \frac{3+9}{2}) = (4, 6)$. So the final answer is (4, 6).

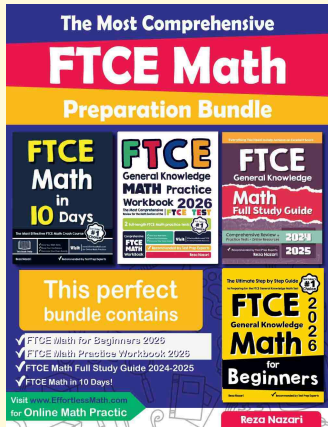
17. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is Midpoint of the bridge: $(\frac{-4+6}{2}, \frac{2+2}{2}) = (1, 2)$. So the final answer is (1, 2).

18. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is The center is the midpoint of the diameter: $(\frac{0+8}{2}, \frac{-2+6}{2}) = (4, 2)$. So the final answer is (4, 2).



Keep Building FTCE General Knowledge Math Skills

Recommended Effortless Math resources



The Most Comprehensive
FTCE Math
Preparation Bundle


This perfect bundle contains

- ✓ FTCE Math for Beginners 2026
- ✓ FTCE Math Practice Workbook 2026
- ✓ FTCE Math Full Study Guide 2024-2025
- ✓ FTCE Math in 10 Days!

Visit www.EffortlessMath.com for Online Math Practice

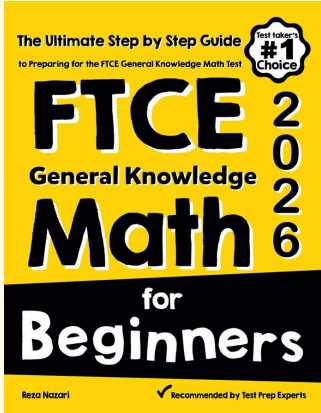
Reza Nazari

The Most Comprehensive FTCE Math Preparation Bundle



Scan Me
Download Instantly

STUDENT FAVORITE - FTCE General Knowledge Math for Beginners



The Ultimate Step by Step Guide
to Preparing for the FTCE General Knowledge Math Test

FTCE 2026
General Knowledge
Math 2026
for
Beginners

Reza Nazari


Recommended by Test Prep Experts

FTCE General Knowledge Math for Beginners 2026

Step-by-step lessons, topic practice, and full review support for students who want a calm path through FTCE General Knowledge Math preparation.

A strong companion for self-study, tutoring, homework, and targeted review.

PDF Edition



Scan Me
Download Instantly