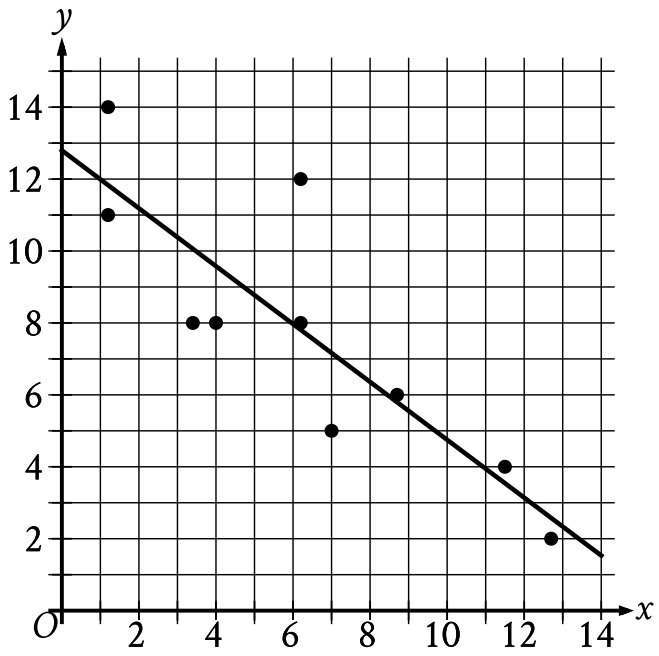
# Question ID 14c3d4f9

| Assessment | Test | Domain | Skill | Difficulty |
|---|---|---|---|---|
| PSAT 8/9 | Math | Problem-Solving and Data Analysis | Two-variable data: Models and scatterplots | Hard |

**ID: 14c3d4f9**

The scatterplot shows the relationship between two variables, $x$ and $y$. A line of best fit is also shown.




Which of the following is closest to the slope of the line of best fit shown?

A. $-2.4$

B. $-0.8$

C. $0.8$

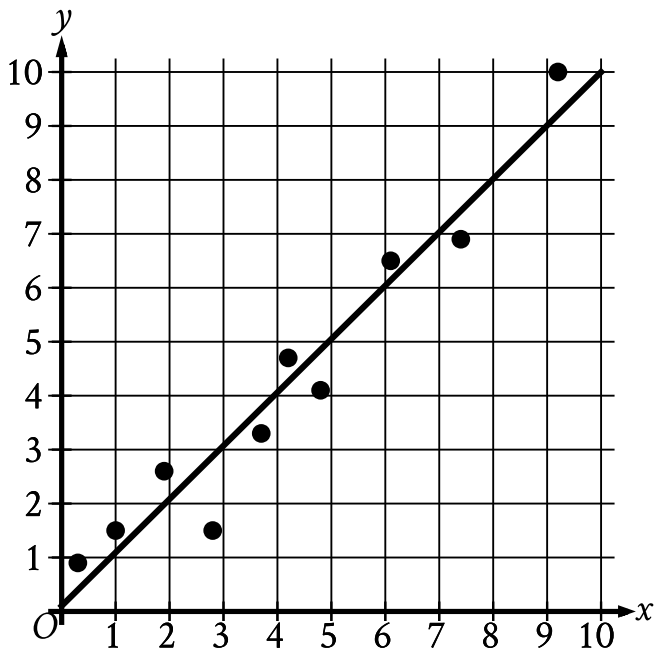
D. $2.4$

# Question ID 54380bb2

| Assessment | Test | Domain | Skill | Difficulty |
|---|---|---|---|---|
| PSAT 8/9 | Math | Problem-Solving and Data Analysis | Two-variable data: Models and scatterplots | Hard |

**ID: 54380bb2**

The scatterplot shows the relationship between two variables, $x$ and $y$. A line of best fit for the data is also shown.




For how many of the $10$ data points is the actual $y$-value greater than the $y$-value predicted by the line of best fit?

A. $3$

B. $4$

C. $6$

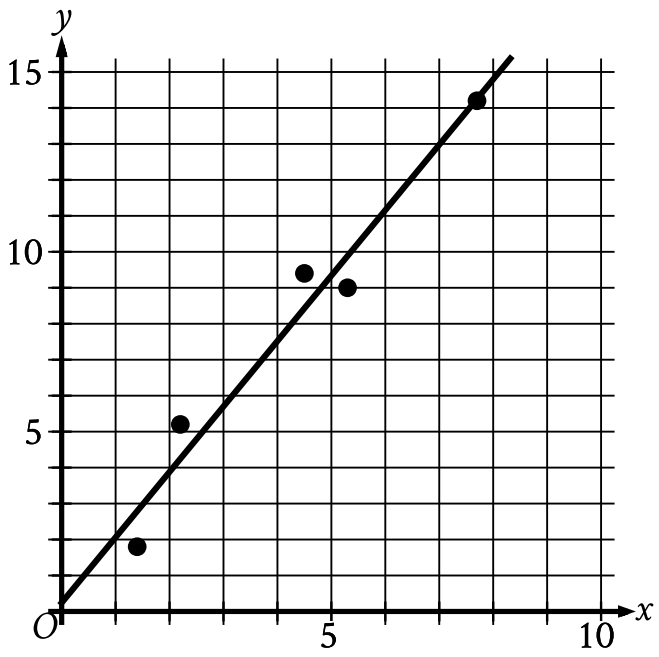
D. $7$

# Question ID bd2e4f46

| Assessment | Test | Domain | Skill | Difficulty |
|---|---|---|---|---|
| PSAT 8/9 | Math | Problem-Solving and Data Analysis | Two-variable data: Models and scatterplots | Hard |

**ID: bd2e4f46**

In the given scatterplot, a line of best fit for the data is shown.




Which of the following is closest to the slope of the line of best fit shown?

A. $0.2$

B. $0.7$

C. $1.8$

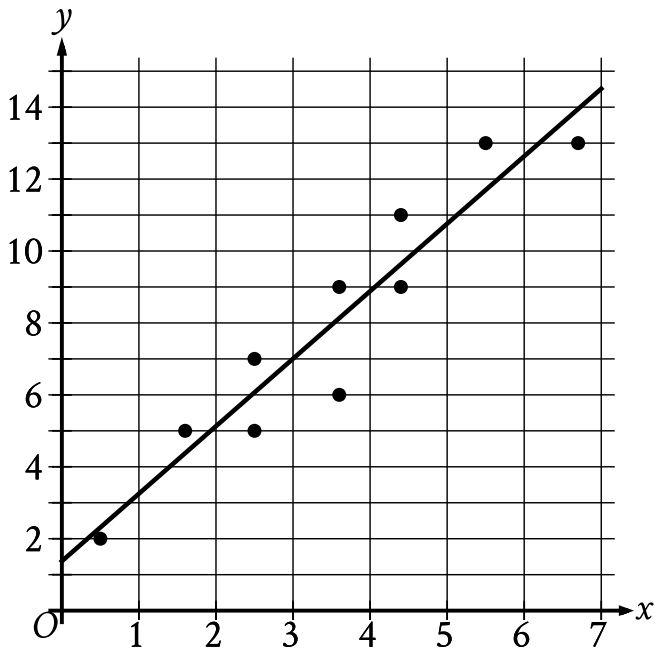
D. $2.6$

# Question ID 0346405a

| Assessment | Test | Domain | Skill | Difficulty |
|---|---|---|---|---|
| PSAT 8/9 | Math | Problem-Solving and Data Analysis | Two-variable data: Models and scatterplots | Hard |

**ID: 0346405a**

In the given scatterplot, a line of best fit for the data is shown.




Which of the following is closest to the slope of the line of best fit shown?

A. $0$

B. $\frac{1}{2}$

C. $1$

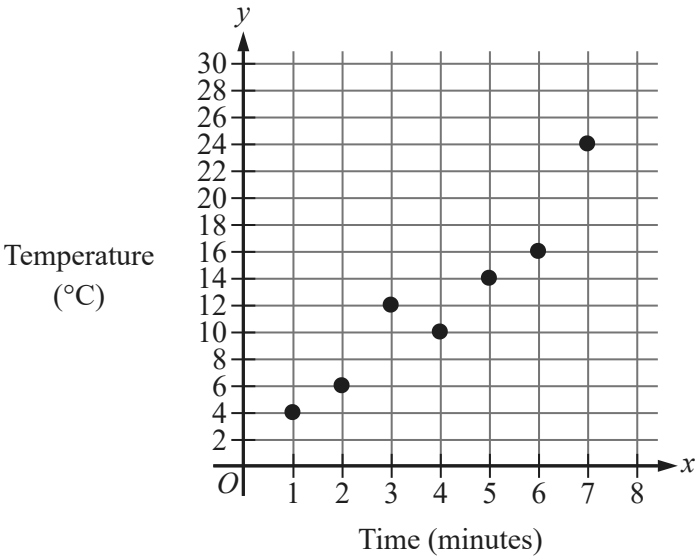
D. $2$

# Question ID 171007e3

| Assessment | Test | Domain | Skill | Difficulty |
|---|---|---|---|---|
| PSAT 8/9 | Math | Problem-Solving and Data Analysis | Two-variable data: Models and scatterplots | Hard |

**ID: 171007e3**

During a study, the temperature, in degrees Celsius ($^\circ$C), of the air in a chamber was recorded to the nearest integer at certain times. The scatterplot shows the recorded temperature $y$, in $^\circ$C, of the air in the chamber $x$ minutes after the start of the study.



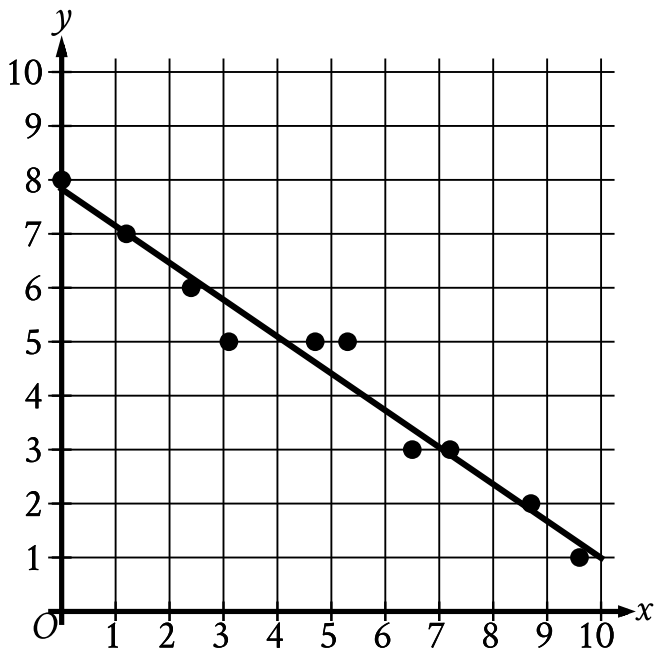

What was the average rate of change, in $^\circ$C per minute, of the recorded temperature of the air in the chamber from $x = 5$ to $x = 7$?

# Question ID 8dbc9c80

| Assessment | Test | Domain | Skill | Difficulty |
|---|---|---|---|---|
| PSAT 8/9 | Math | Problem-Solving and Data Analysis | Two-variable data: Models and scatterplots | Hard |

**ID: 8dbc9c80**

In the given scatterplot, a line of best fit for the data is shown.




Which of the following is closest to the slope of this line of best fit?

A. $7$

B. $0.7$

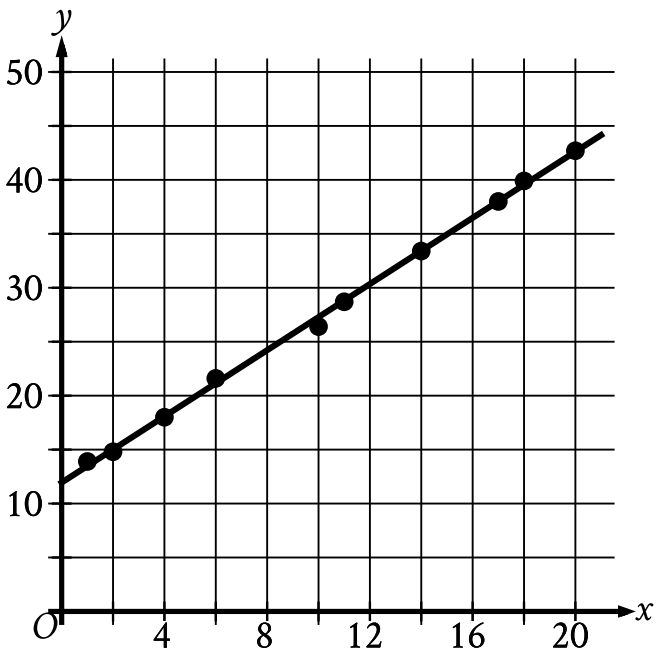
C. $-0.7$

D. $-7$

# Question ID d978eef4

| Assessment | Test | Domain | Skill | Difficulty |
|---|---|---|---|---|
| PSAT 8/9 | Math | Problem-Solving and Data Analysis | Two-variable data: Models and scatterplots | Hard |

ID: d978eef4




The scatterplot shows the relationship between two variables, $x$ and $y$, for data set E. A line of best fit is shown. Data set F is created by multiplying the *y*-coordinate of each data point from data set E by $3.9$. Which of the following could be an equation of a line of best fit for data set F?

A. $y = 46.8 + 5.9x$

B. $y = 46.8 + 1.5x$

C. $y = 12 + 5.9x$

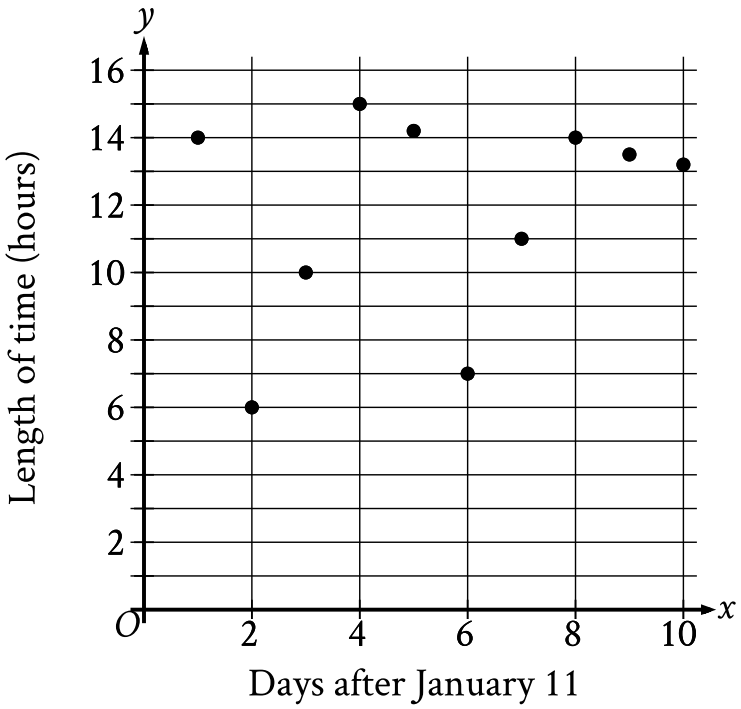
D. $y = 12 + 1.5x$

# Question ID defbe7d4

| Assessment | Test | Domain | Skill | Difficulty |
|---|---|---|---|---|
| PSAT 8/9 | Math | Problem-Solving and Data Analysis | Two-variable data: Models and scatterplots | Hard |

**ID: defbe7d4**

The scatterplot shows the relationship between the length of time $y$, in hours, a certain bird spent in flight and the number of days after January $11$, $x$.

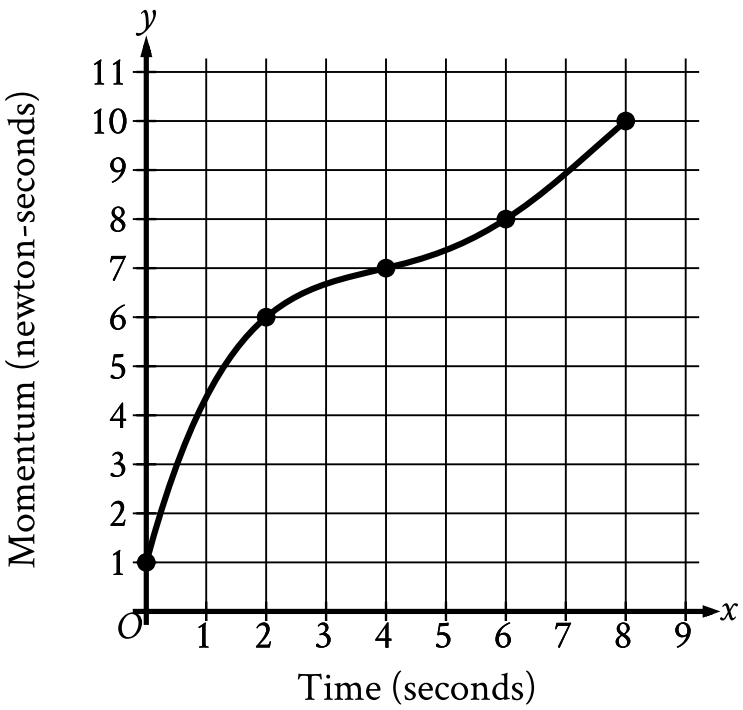



What is the average rate of change, in hours per day, of the length of time the bird spent in flight on January $13$ to the length of time the bird spent in flight on January $15$?

# Question ID b8f73cba

| Assessment | Test | Domain | Skill | Difficulty |
|---|---|---|---|---|
| PSAT 8/9 | Math | Problem-Solving and Data Analysis | Two-variable data: Models and scatterplots | Hard |

ID: b8f73cba

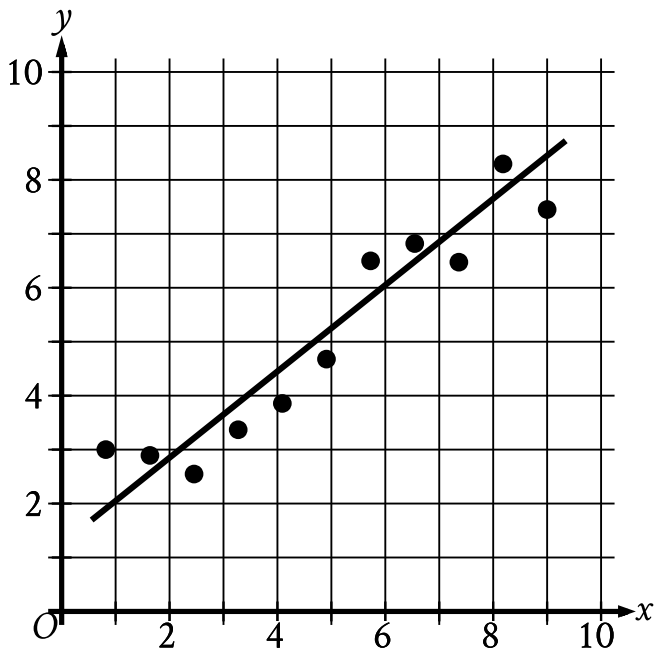



The graph shows the momentum $y$, in newton-seconds, of an object $x$ seconds after the object started moving, for $0 \leq x \leq 8$. What is the average rate of change, in newton-seconds per second, in the momentum of the object from $x = 2$ to $x = 6$?

# Question ID f4026706

| Assessment | Test | Domain | Skill | Difficulty |
|---|---|---|---|---|
| PSAT 8/9 | Math | Problem-Solving and Data Analysis | Two-variable data: Models and scatterplots | Hard |

ID: f4026706



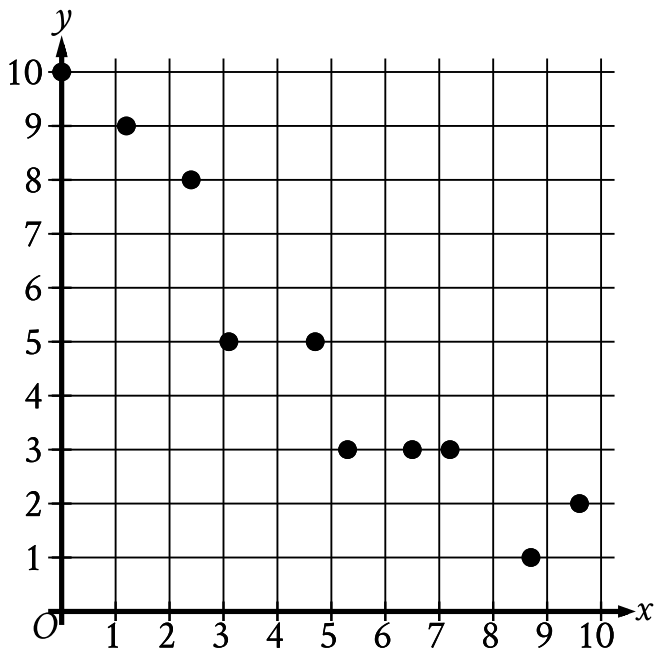

The scatterplot shows the relationship between two variables, $x$ and $y$. A line of best fit is also shown. For how many of the $11$ data points does the line of best fit predict a greater $y$-value than the actual $y$-value?

# Question ID fab4c69e

| Assessment | Test | Domain | Skill | Difficulty |
|---|---|---|---|---|
| PSAT 8/9 | Math | Problem-Solving and Data Analysis | Two-variable data: Models and scatterplots | Hard |

**ID: fab4c69e**

The scatterplot shows the relationship between two variables, $x$ and $y$.




Which of the following equations is the most appropriate linear model for the data shown?

A. $y = 0.9 + 9.4x$

B. $y = 0.9 - 9.4x$

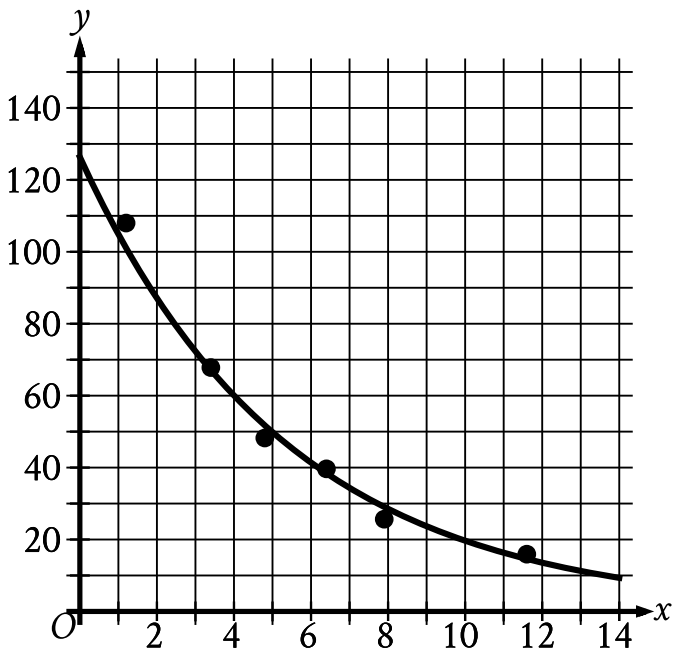
C. $y = 9.4 + 0.9x$

D. $y = 9.4 - 0.9x$

# Question ID 5d546c0e

| Assessment | Test | Domain | Skill | Difficulty |
|---|---|---|---|---|
| PSAT 8/9 | Math | Problem-Solving and Data Analysis | Two-variable data: Models and scatterplots | Hard |

ID: 5d546c0e




The scatterplot shows the relationship between two variables, $x$ and $y$. An equation for the exponential model shown can be written as $y = a(b)^x$, where $a$ and $b$ are positive constants. Which of the following is closest to the value of $b$?

A. $0.83$

B. $1.83$

C. $18.36$

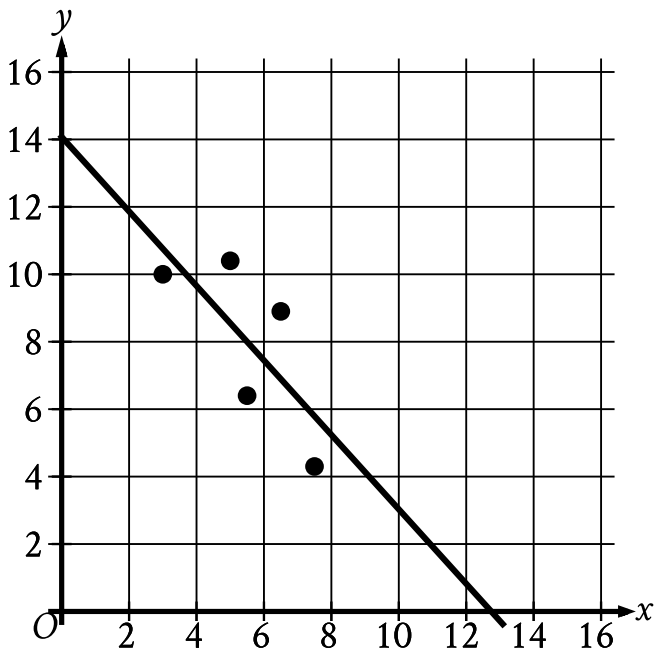
D. $126.35$

# Question ID cbf73e2a

| Assessment | Test | Domain | Skill | Difficulty |
|---|---|---|---|---|
| PSAT 8/9 | Math | Problem-Solving and Data Analysis | Two-variable data: Models and scatterplots | Hard |

**ID: cbf73e2a**

The scatterplot shows the relationship between two variables, $x$ and $y$. A line of best fit is also shown.




Which of the following is closest to the slope of this line of best fit?

A. $-3.3$

B. $-1.1$

C. $1.1$

D. $3.3$