

Data Science Math Skills

Here's the complete list of exercises you need to deliver:

Week 2

* Descartes Was Really Smart - Practice quiz on the Cartesian Plane (5 questions)

* Input-Output Machines - Practice quiz on Types of Functions (6 questions)

* Input-Output Machines - Graded quiz on Cartesian Plane and Types of Function (13 questions)

Descartes Was Really Smart

Practice quiz on the Cartesian Plane

Teste para praticar • 15 min

NÚMERO TOTAL DE PONTOS 5

1. Which of the following points in the Cartesian Plane is on the y -axis? 1 ponto
- ☐ $(-5, 0)$
 - ☒ $(0, -5)$
 - ☐ $(5, 0)$
 - ☐ $(1, 1)$
2. Find the distance between the points $A = (2, 2)$ and $C = (3, 3)$: 1 ponto
- ☐ 0
 - ☒ $\sqrt{2}$
 - ☐ 1
 - ☐ 2
3. Find the point-slope form of the equation of the line that goes between $A = (1, 1)$ and $B = (5, 3)$: 1 ponto
- ☐ $y - 1 = \frac{1}{2}(x - 1)$

Practice quiz on the Cartesian Plane

Teste para praticar • 15 min

3. Find the point-slope form of the equation of the line that goes between $A = (1, 1)$ and $B = (5, 3)$:

1 ponto

- ☐ $y = \frac{1}{2}x$
- ☐ $y - 1 = \frac{1}{2}(x - 5)$
- ☒ $y - 1 = \frac{1}{2}(x - 1)$
- ☐ $y - 3 = \frac{1}{2}(x - 1)$

4. Which of the following points is on the line with equation:

1 ponto

- $y - 1 = 2(x - 2)?$
- ☐ $(0, 0)$
 - ☐ $(2, 3)$
 - ☐ $(3, 2)$
 - ☒ $(2, 1)$

Teste para praticar • 15 min

② (2, 1)

5. Suppose that a line ℓ has slope 2 and goes through the point $(-1, 0)$. What is the y -intercept of ℓ ?

1 ponto

○ 1

2

0

○ -1

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Salvar

Enviar

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Input-Output Machines

Practice quiz on Types of Functions

Teste para praticar • 20 min

Practice quiz on Types of Functions

NÚMERO TOTAL DE PONTOS 6

1. Suppose that $A = \{1, 2, 10\}$ and $B = \{4, 8, 40\}$. Which of the following formulae do **not** define a function $f : A \rightarrow B$?

1 ponto

☒ $f(1) = 5, f(2) = 8, \text{ and } f(10) = 40.$

☐ $f(a) = 4a, \text{ for each } a \in A$

☐ $f(1) = 4, f(2) = 4, \text{ and } f(10) = 4.$

☐ $f(1) = 4, f(2) = 40, \text{ and } f(10) = 8.$

2. Suppose that A contains every person in the VBS study (see the second video in the course if you're confused here!). Suppose that $Y = \{+, -\}$ and $Z = \{H, S\}$

1 ponto

Suppose that $T : A \rightarrow Y$ is the function which gives $T(a) = +$ if person a tests positive and $T(a) = -$ if they test negative.

Suppose that $D : A \rightarrow Z$ is the function which gives $D(a) = H$ does not actually have VBS and $D(a) =$

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20:34

24/03/2021

Teste para praticar • 20 min

1 ponto

Suppose that $D : A \rightarrow Z$ is the function which gives $D(a) = H$ if a does not actually have VBS and $D(a) = S$ if the person actually has VBS.

Which of the following must be true of person a if we have a false positive?

- ☒ $T(a) = +$ and $D(a) = H$
- ☐ $T(a) = -$ and $D(a) = S$
- ☐ $T(a) = -$ and $D(a) = H$
- ☐ $T(a) = +$ and $D(a) = S$

3. Consider the function $g : \mathbb{R} \rightarrow \mathbb{R}$ defined by $g(x) = x^2 - 1$. Which of the following points are *not* on the graph of g ?

1 ponto



Practice quiz on Types of Functions

Teste para praticar • 20 min

3. Consider the function $g : \mathbb{R} \rightarrow \mathbb{R}$ defined by $g(x) = x^2 - 1$. Which of the following points are *not* on the graph of g ? 1 ponto

☐ (1, 0)

☒ (2, -1)

☐ (-1, 0)

☐ (0, -1)

4. Let the point $A = (2, 4)$. Which of the following graphs does *not* contain the point A ? 1 ponto

☐ The graph of $s(x) = x^2$

☐ The graph of $f(x) = 2x$

☒ The graph of $h(x) = x - 1$

☐ The graph of $g(x) = x + 2$

5. Suppose that $h(x) = -3x + 4$. Which of the following statements is true? 1 ponto



Teste para praticar • 20 min

- 1 ponto

- 1 ponto

○ -3

☒ Entendo que, ao enviar o trabalho de outra pessoa como se fosse meu, pode resultar em crédito zero



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Explorar

O que você deseja aprender?



Catarina Pires

Data Science Math Skills > Semana 2 > Practice quiz on Types of Functions

Anterior | Próximo

3 min

✓ **Vídeo:** Functions - Mapping from Sets to Sets

7 min

✓ **Vídeo:** Functions - Graphing in the Cartesian Plane

11 min

✓ **Vídeo:** Functions - Increasing and Decreasing Functions

10 min

✓ **Vídeo:** Functions - Composition and Inverse

10 min

✓ **Teste para praticar:** Practice quiz on Types of Functions
6 perguntas

📋 **Teste:** Graded quiz on Cartesian Plane and Types of Function
13 perguntas

📖 **Leitura:** Feedback
10 min

TESTE PARA PRATICAR • 20 MIN

Practice quiz on Types of Functions

✓ **Envie sua tarefa**

Tentar novamente

✓ **Receber nota**

PARA SER APROVADO 75% ou superior

Nota

100%

Ver feedback

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Input-Output Machines

Graded quiz on Cartesian Plane and Types of Function

Teste valendo nota • 40 min

Vencimento Mar 28, 11:59 PM PDT

Graded quiz on Cartesian Plane and Types of Function

NÚMERO TOTAL DE PONTOS 13

1. Which of the following points in the Cartesian Plane have positive x -coordinate and negative y -coordinate? 1 ponto

- ☐ (0, 0)
- ☐ (5, 7)
- ☒ (7, -1)
- ☐ (-4, 5)

2. Which of the following points is in the first quadrant of the Cartesian Plane? 1 ponto

- ☐ (-4, -7)
- ☐ (5, -1)
- ☐ (-5, 1)
- ☒ (7, 11)

Graded quiz on Cartesian Plane and Types of Function

Teste valendo nota • 40 min

Vencimento Mar 28, 11:59 PM PDT

3. Let A, B, C, D be points in the Cartesian Plane, and let the set $S = \{B, C, D\}$

1 ponto

Suppose that the distances from A to B, C, D are 5.3, 2.1, and 11.75, respectively.

Which of the following points is the nearest neighbor to the point A in the set S ?

- ☐ A
- ☒ C
- ☐ B
- ☐ D

4. Find the distance between the points $A = (2, 2)$ and $B = (-1, -2)$.

1 ponto

- ☒ 5
- ☐ 25
- ☐ -25
- ☐ 1

Graded quiz on Cartesian Plane and Types of Function

Teste valendo nota • 40 min

Vencimento Mar 28, 11:59 PM PDT

5. Find the slope of the line segment between the points $A = (0, 1)$ and $B = (1, 0)$.

1 ponto

- ☒ -1
- ☐ 1
- ☐ $\sqrt{2}$
- ☐ 0

6. Find the point-slope form of the equation of the line with slope -2 that goes through the point $(5, 4)$.

1 ponto

- ☐ $y - 4 = 2(x - 5)$
- ☐ $y - 5 = -2(x - 4)$
- ☒ $y - 4 = -2(x - 5)$
- ☐ $(5, 4)$

7. Which of the following equations is for a line with the same slope as $y = -3x + 2$?

1 ponto

Graded quiz on Cartesian Plane and Types of Function

Teste valendo nota • 40 min

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7. Which of the following equations is for a line with the same slope as $y = -3x + 2$?

1 ponto

- ☐ $y = 8x - 3$
- ☒ $y = -3x - 8$
- ☐ $y = 5x + 2$
- ☐ $y = 5x$

8. Which of the following equations is for a line with the same y -intercept as $y = -3x + 2$?

1 ponto

- ☐ $y = 5x$
- ☐ $y = -3x - 8$
- ☐ $y = 8x - 3$
- ☒ $y = 5x + 2$

9. How many lines contain both the point $A = (1, 1)$ and the point $B = (2, 2)$?

1 ponto

← Graded quiz on Cartesian Plane and Types of Function

Teste valendo nota • 40 min

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9. How many lines contain both the point $A = (1, 1)$ and the point $B = (2, 2)$?

1 ponto

- ☐ None
- ☐ 2
- ☐ infinitely many
- ☒ 1

10. Suppose that we have two sets, $A = \{a, b\}$ and $Z = \{x, y\}$. How many different functions $F: A \rightarrow Z$ are possible?

1 ponto

- ☐ 1
- ☒ 4
- ☐ There are infinitely many
- ☐ There are none

11. How many graphs contain both the point $A = (0, 0)$ and the point $B = (1, 1)$

1 ponto

Graded quiz on Cartesian Plane and Types of Function

Teste valendo nota • 40 min

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11. How many graphs contain both the point $A = (0, 0)$ and the point $B = (1, 1)$

1 ponto

- ☒ Infinitely many
- ☐ None
- ☐ 2
- ☐ 1

12. Suppose that $g : \mathbb{R} \rightarrow \mathbb{R}$ is a continuous function whose graph intersects the x -axis more than once. Which of the following statements is true?

1 ponto

- ☐ All of the above.
- ☒ g is neither strictly increasing nor strictly decreasing.
- ☐ g is strictly decreasing.
- ☐ g is strictly increasing.

13. Find the slope of the line segment between the points $A = (1, 1)$ and $B = (5, 3)$.

1 ponto

Graded quiz on Cartesian Plane and Types of Function

Teste valendo nota • 40 min

Vencimento Mar 28, 11:59 PM PDT

13. Find the slope of the line segment between the points $A = (1, 1)$ and $B = (5, 3)$.

1 ponto

- ☐ 2
- ☐ 4
- ☒ $\frac{1}{2}$
- ☐ $\sqrt{20}$

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- 3 min
- ✓ **Video:** Functions - Mapping from Sets to Sets 7 min
- ✓ **Video:** Functions - Graphing in the Cartesian Plane 11 min
- ✓ **Video:** Functions - Increasing and Decreasing Functions 10 min
- ✓ **Video:** Functions - Composition and Inverse 10 min
- ✓ **Teste para praticar:** Practice quiz on Types of Functions 6 perguntas
- ✓ **Teste:** Graded quiz on Cartesian Plane and Types of Function 13 perguntas
- 📖 **Leitura:** Feedback 10 min

TESTE • 40 MIN

Graded quiz on Cartesian Plane and Types of Function

✓ **Envie sua tarefa**

DATA DE VENCIMENTO Mar 28, 11:59 PM PDT **TENTATIVAS** 3 a cada 8 hours [Tentar novamente](#)

✓ **Receber nota**

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Nota

100%

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