|  |  |
| --- | --- |
| **1.** | **Which equation has only one solution?** |
|  |
|  | |  |  | | --- | --- | | **A.** | /files/assess_files/2da5e7df-49fa-4ffb-8ee9-9688cba48266/487a4b89-db32-4393-bef9-5ed3c7d9e0b2.png | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | /files/assess_files/266c60ca-d041-4af8-838f-e89c2f2bc503/843f7072-c246-478d-b010-989b837ef633.png | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | /files/assess_files/2ca714a2-ba56-4150-84e3-51ec9620ee71/3797a436-c697-44d9-a134-5ac127d3d228.png | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | /files/assess_files/1ea4b35a-7ec7-4554-9e4e-d0f05f94e229/e10f1e2e-0de7-4b7b-b1fb-d5808d1d185c.png | |
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| **2.** | **Four students each wrote an equation.**  /files/assess_files/1fa438cc-8f57-4ee9-913c-67325c4c44c5/176077.jpg  **Which two students wrote equations that have no solution?** |
|  |
|  | |  |  | | --- | --- | | **A.** | Beto and Wanda | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | Beto and Mark | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | Lila and Wanda | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | Lila and Mark | |
|  |  |
|  |  |

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| --- | --- |
| **3.** | **Which equation has an infinite number of solutions?** |
|  |
|  | |  |  | | --- | --- | | **A.** | /files/assess_files/60a2a337-7922-42f7-989b-964c46bc9d76/0bded142-1c08-4186-be5b-a3995a78f113.png | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | /files/assess_files/cd516786-8988-4b12-acd1-0a9e950893bb/e66785ee-cd38-467b-9b4b-332479680263.png | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | /files/assess_files/7f890840-c72e-4a7e-ae5e-8def14334caf/2ee328ad-c64c-4920-bd17-4c696a860c6e.png | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | /files/assess_files/d7787b6e-5a0f-48ac-ba37-1e9ddac6bc14/1dd3299c-84b5-4530-9cbb-1b43bcdadcf2.png | |
|  |  |
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| --- | --- |
| **4.** | **Which equation has no solution?** |
|  |
|  | |  |  | | --- | --- | | **A.** | /files/assess_files/be832466-6769-4ee3-87f4-fe9c9e55b1da/24d524a9-3d95-42bf-b1d8-ba9e44115c4e.png | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | /files/assess_files/859c135a-acfe-454d-8a12-37bd805374d3/e3cd4495-e9aa-4dba-bdff-b31bb4d61f64.png | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | /files/assess_files/49f308b8-bff6-4a52-b5e4-09f0727ce085/554b87f4-8cb4-4f8d-bb23-fd3022f31719.png | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | /files/assess_files/73e3c302-4d8d-46ba-bc7c-6985f6bbf905/3e8cc40c-94bc-4fce-a98f-431a8e7f8611.png | |
|  |  |
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| --- | --- |
| **5.** | **Which of the following equations has no solution?** |
|  |
|  | |  |  | | --- | --- | | **A.** | /files/assess_files/d36fb2af-c100-4124-b230-73986c92330d/27eec6e0-2f5d-4146-a3de-bad40531340f.png | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | /files/assess_files/73c3560d-e994-41cc-961f-cc6aee828fb2/1e1d2508-d9ee-486e-a661-cf1187da6876.png | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | /files/assess_files/76b10b7d-d0eb-4453-8b27-b9857992ac59/1c2383e6-69a7-4a41-871b-bf07cf86634f.png | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | /files/assess_files/fc8ec372-6008-4184-8e57-08f49c5de2fe/ee85bd7d-9da3-4c9c-a6c8-a3226353936f.png | |
|  |  |
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| --- | --- |
| **6.** | **An equation is given below.**  /files/assess_files/e6f9a3fa-70b7-47d6-bfeb-2dfe75fd1cd7/7f4a78a2-396c-4c5a-9c1f-c35422ef68d4.png  **Based on the equation, which of the following is a valid statement?** |
|  |
|  | |  |  | | --- | --- | | **A.** | The only value that satisfies the equation is *x* = 0. | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | The only value that satisfies the equation is *x* = 3. | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | There are no values of *x* that satisfy the equation. | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | Any real number value of *x* satisfies the equation. | |
|  |  |
|  |  |

|  |  |
| --- | --- |
| **7.** | **Which statement regarding the number of solutions for the linear equation shown below is true?**  /files/assess_files/f25c34e4-74c5-4b31-a40d-0e3ce4403db0/f185105e-727b-4abe-83c4-be76eceb7f19.png |
|  |
|  | |  |  | | --- | --- | | **A.** | There are infinitely many solutions. | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | There are exactly two solutions. | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | There is exactly one solution. | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | There is no solution. | |
|  |  |
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| **8.** | **Which statement regarding the number of solutions for the linear equation shown below is true?**  /files/assess_files/553295f9-a2d3-4456-ae49-71c1f14a9e62/4b2d6c67-d768-45dd-b2da-d7ba295adb9c.png |
|  |
|  | |  |  | | --- | --- | | **A.** | There is no solution. | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | There is exactly one solution. | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | There are exactly two solutions. | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | There are infinitely many solutions. | |
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| **9.** | **A student concluded that** /files/assess_files/5025fba7-ca29-40b1-b0ed-664091ffa665/07ec46cb-1d9f-4cc0-8b50-1ce36c7a60dc.png **has infinitely many solutions. Which statement BEST describes the student’s conclusion?** |
|  |
|  | |  |  | | --- | --- | | **A.** | The conclusion is incorrect because the equation has no solution. | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | The conclusion is incorrect because there is exactly one solution to the equation. | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | The conclusion is correct because there are exactly two solutions to the equation. | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | The conclusion is correct because when simplified, both sides of the equation are equivalent. | |
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| **10.** | **A linear equation is shown below.**  /files/assess_files/4c1c2dbb-9b30-4dea-8dbc-da3675d92d7f/6b112022-dd51-41df-906e-053d9eb98bc9.png  **Which statement is true?** |
|  |
|  | |  |  | | --- | --- | | **A.** | The equation has no solution. | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | The solution to the equation is 3. | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | The solutions to the equation are 3 and 7. | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | The equation has infinitely many solutions. | |
|  |  |
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| --- | --- |
| **11.** | **Which statement about *x* in the equation *a* – *x* = 2*a* is true?** |
|  |
|  | |  |  | | --- | --- | | **A.** | *x* is equal to twice *a* | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | *x* must be greater than *a* | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | *x* must be equal to the opposite of *a* | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | *x* does not have any real number values | |
|  |  |
|  |  |

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| --- | --- | --- |
| **12.** | **What is the value of** /files/assess_files/7f69c746-a12f-4768-a5cb-d23304aadd2c/9a9a0b68-327a-4463-83fd-ac14f9f94a60.png/files/assess_files/7f69c746-a12f-4768-a5cb-d23304aadd2c/f1888aaa-8f0d-472a-b263-fb5801019275.png **in the equation below?**   |  | | --- | | /files/assess_files/7f69c746-a12f-4768-a5cb-d23304aadd2c/ff3d87fa-ad9e-42f3-a912-b720328a229c.png | |
|  |
|  | |  |  | | --- | --- | | **A.** | /files/assess_files/bc781b90-9c58-4082-aaba-1bb9759b7bb5/6e94060c-520d-46c2-aa48-97a6db75efe4.png | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | 1 | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | 3 | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | 5 | |
|  |  |
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| --- | --- | --- |
| **13.** | **What is the value of** /files/assess_files/60b48e74-7162-40d1-91a4-8fcf957b1b86/fe06335e-0ddc-4e51-9aa8-83ed6a1e101e.png **in the equation below?**   |  | | --- | | /files/assess_files/60b48e74-7162-40d1-91a4-8fcf957b1b86/89897094-1586-43b1-bf06-cc659c68ee7a.png | |
|  |
|  | |  |  | | --- | --- | | **A.** | –6 | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | –3 | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | 5 | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | 6 | |
|  |  |
|  |  |

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| --- | --- |
| **14.** | **What is the solution to the equation** /files/assess_files/f235ccd0-6890-4d17-9c82-e4dd53308ec0/28acc2ed-fc2d-43a4-9102-3ea2dd320dbb.png |
|  |
|  | |  |  | | --- | --- | | **A.** | /files/assess_files/7867e4d7-a909-4efc-97da-c54a11bd8662/56f07ecc-dd9e-4c09-93e1-985be20fb779.png | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | /files/assess_files/ce0502a6-6825-480d-a57a-e99942febc39/8942303e-b370-4598-9962-c78f563902e8.png | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | /files/assess_files/65387d34-07b2-45d8-bd46-5fb84c1d8419/5b363fd1-7161-4088-8972-ef436fcb6e6d.png | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | /files/assess_files/90db0eb2-d39e-4970-8154-89196240f870/be9c3416-d867-4bb8-99e1-e26150b3288c.png | |
|  |  |
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| --- | --- | --- | --- | --- |
| **15.** | **Martina is solving the equation** /files/assess_files/6832ce9b-17f8-4e4d-a074-56a8c45f10b8/a8e0ec28-c294-4340-a490-e5385357acbc.png **Here are the first steps of her solution.**   |  | | --- | | **4*x* – 11 = 2*x* + 391** | | **4*x* = 2*x* + 402** | | **2*x* = 402** |     **What did Martina do to get 2*x* = 402?** |
|  |
|  | |  |  | | --- | --- | | **A.** | divided both sides by 2 | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | divided the left side by 2*x* | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | subtracted 2*x* from both sides | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | subtracted 2*x* from the left side and added 2*x* to the right side | |
|  |  |
|  |  |

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| --- | --- |
| **16.** | A student solved an equation for the unknown value of *n* as 0 =0.  Which set represents all of the possible values of *n*? |
|  |
|  | |  |  | | --- | --- | | **A.** | only zero can be the solution | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | only positive numbers can be the solution | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | only negative numbers can be the solution | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | any number can be the solution | |
|  |  |
|  |  |

|  |  |
| --- | --- |
| **17.** | How many solutions does the equation 4*r* + 8 = 8 + 4*r* have? |
|  |
|  | |  |  | | --- | --- | | **A.** | no solutions | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | one unique solution | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | two unique solutions | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | infinitely many solutions | |
|  |  |
|  |  |

|  |  |
| --- | --- |
| **18.** | Which equation has no solution? |
|  |
|  | |  |  | | --- | --- | | **A.** | 4*x* − 9 = − 9 | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | 3*x* + 2 = 17 | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | 2*x* + 4 =2*x* + 6 | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | *x* + 3*x* = 8*x* − 4*x* | |
|  |  |
|  |  |

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| --- | --- |
| **19.** | Solve the equation 2(3*x* − 4) = 8*x* − 4 − 2*x*. |
|  |
|  | |  |  | | --- | --- | | **A.** | no solution | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | infinitely many solutions | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | *x* = –1 | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | *x* = 4 | |
|  |  |
|  |  |

|  |  |
| --- | --- |
| **20.** | Which statement correctly describes the solution(s) of the equation below?    /files/assess_files/680eaac9-83b0-4f3e-92c3-213a2ea6b29a/images/94bedc68284e558422983e0eed30e6d3.png |
|  |
|  | |  |  | | --- | --- | | **A.** | The equation has one solution, which is /files/assess_files/32dac3b2-0f0a-43a0-ac5f-b3f7fbd2e326/images/9490bbb2ba58ee659a074b8ed57c3221.png | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | The equation has one solution, which is /files/assess_files/2ceedfb5-4672-4ed3-91d7-5523f9d9df29/images/6976c2e031a1c0ba32f1739d9ada63f1.png | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | The equation has infinitely many solutions. | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | The equation has no solution. | |
|  |  |
|  |  |

|  |  |
| --- | --- |
| **21.** | How many solutions does the equation /files/assess_files/246b72b3-4e46-4460-a28e-022ded7ac408/images/dcf0aa2031adf5c104708fa5d1161a24.png have? |
|  |
|  | |  |  | | --- | --- | | **A.** | no solution | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | one solution | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | two solutions | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | infinitely many solutions | |
|  |  |
|  |  |

|  |  |
| --- | --- |
| **22.** | How many solutions does the equation /files/assess_files/42e2b9af-d802-4f6f-aa16-9781072433ee/images/c46dd60c6659f2e86221c20ff310981d.png have? |
|  |
|  | |  |  | | --- | --- | | **A.** | no solution | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | one solution | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | two solutions | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | infinitely many solutions | |
|  |  |
|  |  |

|  |  |
| --- | --- |
| **23.** | How many solutions does the equation  /files/assess_files/95d80c76-0b5c-4dd3-9858-01aa035af4a4/images/0fbc84c276b1569a4cdb8eac12de272c.png have? |
|  |
|  | |  |  | | --- | --- | | **A.** | no solutions | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | one solution | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | two solutions | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | infinite solutions | |
|  |  |
|  |  |

|  |  |
| --- | --- |
| **24.** | Which equation has no solution? |
|  |
|  | |  |  | | --- | --- | | **A.** | /files/assess_files/18402754-3dfd-431a-bbdd-eef88a308ad9/images/51eb86d08f5ee998583c018b322f6cc8.png | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | /files/assess_files/d88a4864-979b-4693-860f-b8404c6b333b/images/195f3018b97b36cb5a3e2385b53ed28b.png | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | /files/assess_files/36842420-8ba3-4076-9fde-b2b93fb9d226/images/a5836c3a3d0390e3b5361863398d9087.png | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | /files/assess_files/7f3d1c10-27f3-4b88-b890-6000ba19ea79/images/d542241014ce2a51058dfb2bb2a3f28e.png | |
|  |  |
|  |  |

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| --- | --- |
| **25.** | Which equation has infinitely many solutions? |
|  |
|  | |  |  | | --- | --- | | **A.** | /files/assess_files/2096ac9c-e44c-4a5b-89ef-7c81a871a351/images/5d42313bc740b71f131a10bdc74235b9.png | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | /files/assess_files/292b870b-9e80-4f59-a01a-13c0be9a1df1/images/a639ca56a384197756f8ee270dd92a9d.png | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | /files/assess_files/a26fdcb1-7c28-4194-8d46-1fe8e9339fb9/images/fd6324f39e2ade05bd9199af63e59a99.png | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | /files/assess_files/927be425-2fb1-4ab3-83cd-8b99cdc60c7e/images/38e10d6c7d6ea35f87d728f72243e79d.png | |
|  |  |
|  |  |

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| --- | --- |
| **26.** | Which of these equations does NOT have any solutions? |
|  |
|  | |  |  | | --- | --- | | **A.** | /files/assess_files/c1107c40-a800-4dc7-9ec7-c7859a61640a/images/0fe8f5e7caa2f4667ccad503713d4bcf.png | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | /files/assess_files/c52d1753-27ea-4436-9c2f-afcc4709a0dd/images/773087753aa5a006adc728ba78c8b4ef.png | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | /files/assess_files/e2be80c9-7e05-4749-9981-4d250849b8aa/images/0afbf9b605323edd7d5c7aaf64214525.png | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | /files/assess_files/5dea392c-5a3e-41d7-bb6e-f2609d598fa9/images/3dc998a042161b437c1fc90741fe594c.png | |
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| --- | --- |
| **27.** | Which equation has an infinite number of solutions? |
|  |
|  | |  |  | | --- | --- | | **A.** | /files/assess_files/c2563968-57d1-45af-8d1c-703ff7a2e639/images/e96cebee7df54af60e617892b2c1a804.png | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | /files/assess_files/0e4e1078-4596-4248-b315-894a8bd9dc04/images/4f99c05a81299fad71624c373ac229ba.png | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | /files/assess_files/9e4ac3de-a6b3-4378-acd7-a8eb8e1fd551/images/0eceb46f75ade8f8b7fda63d465c6682.png | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | /files/assess_files/4356e3ea-0357-45c5-9ebb-0ad33117aa7b/images/5f6b07e63baa3d2c400860a06fdf515e.png | |
|  |  |
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|  |  |
| --- | --- |
| **28.** | The equation/files/assess_files/f5ba636a-0ba2-4907-b7da-7c7b3f547abe/images/13d4dcaacf9bd1f3677bf962b200f3b9.png has no solution. Which step would change the given equation so that it has infinitely many solutions? |
|  |
|  | |  |  | | --- | --- | | **A.** | adding 3 to the left side of the equation | |
|  |  |
|  | |  |  | | --- | --- | | **B.** | adding 6 to the left side of the equation | |
|  |  |
|  | |  |  | | --- | --- | | **C.** | subtracting 3 from the left side of the equation | |
|  |  |
|  | |  |  | | --- | --- | | **D.** | subtracting 6 from the left side of the equation | |
|  |  |
|  |  |