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| 1. Which set of ordered pairs represents a function from *A* to *B*?  ​  *A* = {3, 2, 4, 1} and *B* = {–4, –5, 3, 2, 4}  ​   |  |  |  | | --- | --- | --- | |  | a. | {(3, –4), (2, –5), (4, –4), (3, –5)} | |  | b. | {(3, –4), (4, 4), (2, –5), (1, 3), (2, 2)} | |  | c. | {(3, 4), (1, 3), (2, 2)} | |  | d. | {(3, 2), (2, –4), (4, 3), (1, 4)} | |  | e. | {(3, –4), (2, 2), (1, 3)} |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.15 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/24/2014 5:08 AM | |

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| 2. Which set of ordered pairs represents a function from *A* to *B*?  ​  *A* = {*a*, *b*, *c*} and *B* = {4, 3, 1, 2}  ​   |  |  |  | | --- | --- | --- | |  | a. | {(*a*, 4), (*b*, 3)} | |  | b. | {(*a*, 2), (*c*, 3), (*b*,4 )} | |  | c. | {(*a*, 4), (*c*, 1)} | |  | d. | {(*a*, 1), (*c*, 3), (*c*, 1), (*b*, 4)} | |  | e. | {(*a*, 4), (*c*, 3), (*c*, 1), (*b*, 1)} |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.16 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 5/14/2015 4:36 AM | |

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| 3. Which of the following equation represents *y* as a function of *x?*  ​   |  |  |  | | --- | --- | --- | |  | a. | *y*2 = 9 – *x* | |  | b. | *y*3 = *x* + 9 | |  | c. | *y*2 = *x* + 9 | |  | d. | *x*2 + *y* = 9 | |  | e. | *x*2 + *y*2 = 9 |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.21 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/24/2014 5:20 AM | |

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| 4. Which of the following equation does not represent *y* as a function of *x?*  ​   |  |  |  | | --- | --- | --- | |  | a. | *y*2 = 1 – *x* | |  | b. | *y* = *x*2 + 1 | |  | c. | *x*2 + *y* = 1 | |  | d. | *y* = *x*2 + *x* – 1 | |  | e. | *y* = *x*2 – 1 |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.27 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/24/2014 5:25 AM | |

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| 5. Evaluate *f*(7) if *f*(*x*) = 4*x* – 1.  ​   |  |  |  | | --- | --- | --- | |  | a. | *f*(7) = 27 | |  | b. | *f*(7) = 26 | |  | c. | *f*(7) = 29 | |  | d. | *f*(7) = 25 | |  | e. | *f*(7) = 28 |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.37a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/24/2014 5:27 AM | |

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| 6. Evaluate *f*(–7) if  *f(x)* = 12*x* – 8.  ​   |  |  |  | | --- | --- | --- | |  | a. | *f*(–7) = –89 | |  | b. | *f*(–7) = –91 | |  | c. | *f*(–7) = –88 | |  | d. | *f*(–7) = –92 | |  | e. | *f*(–7) = –90 |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.37b | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 5/14/2015 4:40 AM | |

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| 7. Evaluate *g*(*s* + 2) if *g*(*y*) = 12 – 5*y*.  ​   |  |  |  | | --- | --- | --- | |  | a. | *g*(*s* + 2) = –2 + 5*s* | |  | b. | *g*(*s* + 2) = –2 – 5*s* | |  | c. | *g*(*s* + 2) = 2 + 5*s* | |  | d. | *g*(*s* + 2) = 2 – 5*s* | |  | e. | *g*(*s* + 2) = 12 – 5*s* |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.38c | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/24/2014 5:37 AM | |

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| 8. Evaluate *S*(3) if *S*(*r*) = 4*πr*2.  ​   |  |  |  | | --- | --- | --- | |  | a. | *S*(3) = 40*π* | |  | b. | ​*S*(3) = 9*π* | |  | c. | *S*(3) = 38*π* | |  | d. | *S*(3) = 36*π* | |  | e. | *S*(3) = 37*π* |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.40a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/24/2014 5:42 AM | |

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| 9. Evaluate *g*(*t*) – *g*(9) if *g*(*t*) = 12*t*2 – 6*t* + 3.  ​   |  |  |  | | --- | --- | --- | |  | a. | *g*(*t*) – *g*(9) = 12*t*2 – 918 + 6*​t* | |  | b. | *g*(*t*) – *g*(9) = 6*t*2 – 918*t* + 12 | |  | c. | *g*(*t*) – *g*(9) = 12*t*2 – 918*t* – 6 | |  | d. | *g*(*t*) – *g*(9) = 6*t*2 + 12*t* – 918 | |  | e. | *g*(*t*) – *g*(9) = 12*t*2 – 6*t* – 918 |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.41c | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/24/2014 5:53 AM | |

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| 10. Evaluate ​*f*(16) if .​   |  |  |  | | --- | --- | --- | |  | a. | ​*f*(16) = 5 | |  | b. | ​*f*(16) = 7 | |  | c. | ​*f*(16) = 4 | |  | d. | ​*f*(16) = 8 | |  | e. | ​*f*(16) = 6 |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 9/24/2014 6:00 AM | | *DATE MODIFIED:* | 9/24/2014 6:18 AM | |

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| 11. Evaluate *f*(11) if .  ​   |  |  |  | | --- | --- | --- | |  | a. | *f*(11) = –1 | |  | b. | *f*(11) = 2 | |  | c. | *f*(11) = 0 | |  | d. | *f*(11) = 1 | |  | e. | *f*(11) = 3 |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.47b | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/24/2014 6:31 AM | |

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| 12. Evaluate *q*(4) if .  ​   |  |  |  | | --- | --- | --- | |  | a. | *q*(4) = | |  | b. | *q*(4) = | |  | c. | *q*(4) = | |  | d. | *q*(4) = | |  | e. | *q*(4) = |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.45a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/24/2014 6:37 AM | |

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| 13. Evaluate *f*(0) if .  ​   |  |  |  | | --- | --- | --- | |  | a. | *f*(0) = –9 | |  | b. | *f*(0) = 6 | |  | c. | *f*(0) = 9 | |  | d. | *f*(0) = –6 | |  | e. | *f*(0) = 0 |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.49b | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/24/2014 6:47 AM | |

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| 14. Evaluate *f*(–4) if .  ​   |  |  |  | | --- | --- | --- | |  | a. | *f*(–4) = 19 | |  | b. | *f*(–4) = 11 | |  | c. | *f*(–4) = 16 | |  | d. | *f*(–4) = 23 | |  | e. | *f*(–4) = 21 |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.50a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/24/2014 6:49 AM | |

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| 15. Evaluate the function  at .  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.51b | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/24/2014 6:56 AM | |

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| 16. Evaluate the function  at *f*(7).  ​   |  |  |  | | --- | --- | --- | |  | a. | *f*(7) = 61 | |  | b. | *f*(7) = 58 | |  | c. | *f*(7) = 57 | |  | d. | *f*(7) = 59 | |  | e. | *f*(7) = 60 |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.52b | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/24/2014 7:02 AM | |

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| 17. Complete the table.  *f*(*x*) = *x*2 – 3   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *x* | –3 | –1 | 0 | 4 | 5 | | *f*(*x*) |  |  |  |  |  |   ​   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | a. | ​   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *x* | ​–3 | ​–1 | ​0 | ​4 | ​5 | | *f*(*x*) | ​6 | ​–2 | ​13 | ​–3 | ​22 | | |  | b. | ​   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *x* | ​–3 | ​–1 | ​0 | ​4 | ​5 | | *f*(*x*) | ​6 | ​–2 | ​​–3 | ​22 | ​13 | | |  | c. | ​   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *x* | ​–3 | ​–1 | ​0 | ​4 | ​5 | | *f*(*x*) | ​–2 | ​6 | ​​–3 | ​13 | ​22 | | |  | d. | ​   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *x* | ​–3 | ​–1 | ​0 | ​4 | ​5 | | *f*(*x*) | ​6 | ​–2 | ​0 | ​13 | ​22 | | |  | e. | ​   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *x* | ​–3 | ​–1 | ​0 | ​4 | ​5 | | *f*(*x*) | ​6 | ​–2 | ​​–3 | ​13 | ​22 | |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.53 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/24/2014 7:50 AM | |

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| 18. Complete the table.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *t* | –11 | –9 | 0 | –5 | –1 | | *h*(*t*) |  |  |  |  |  |   ​   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | a. | ​   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *t* | ​–11 | ​–9 | ​0 | ​–5 | ​–1 | | *h*(*t*) | ​3 | ​4 | ​–3 | ​1 | ​1 |   ​ | |  | b. | ​   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *t* | ​–11 | ​–9 | ​0 | ​–5 | ​–1 | | ​  *h*(*t*) | ​  ​4 | ​  ​3 | ​  ​ | ​  ​1 | ​  ​1 |   ​ | |  | c. | ​   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *t* | ​–11 | ​–9 | ​0 | ​–5 | ​–1 | | ​  *h*(*t*) | ​  ​4 | ​  ​3 | ​  ​1 | ​  ​ | ​  ​1 |   ​ | |  | d. | ​   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *t* | ​–11 | ​–9 | ​0 | ​–5 | ​–1 | | ​  *h*(*t*) | ​  ​4 | ​  ​3 | ​  ​ | ​  ​1 | ​  ​1 |   ​ | |  | e. | ​   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *t* | ​–11 | ​–9 | ​0 | ​–5 | ​–1 | | *h*(*t*) | ​4 | ​3 | ​0 | ​1 | ​1 |   ​ |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.55 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 5/14/2015 4:51 AM | |

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| 19. Complete the table.  ​  ​  ​   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | ​  *s* | ​   0 | ​  ​4 | ​  ​ | ​  ​ | ​  ​7 | | *f*(*s*) | ​ | ​ | ​ | ​ | ​ |   ​   |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | a. | ​   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | ​  *s* | ​   0 | ​   4 | ​ | ​ | ​   7 | | *f*(*s*) | –1 | ​1 | ​1 | ​1 | ​1 | | |  | b. | ​​   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | ​  *s* | ​  0 | ​   4 | ​ | ​ | ​   7 | | *f*(*s*) | ​–1 | ​1 | ​1 | ​3 | ​1 | | |  | c. | ​   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | ​  *s* | ​   0 | ​   4 | ​ | ​ | ​   7 | | *f*(*s*) | ​​–1 | ​1 | ​3 | ​1 | 1​ | | |  | d. | ​   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | ​  *s* | ​   0 | ​   4 | ​ | ​ | ​   7 | | *f*(*s*) | ​1 | ​1 | ​3 | ​1 | 1​ | | |  | e. | ​   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | ​  *s* | ​   0 | ​   4 | ​ | ​ | ​   7 | | *f*(*s*) | ​–1 | ​3 | ​1 | 1​ | 1​ | |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 9/24/2014 8:21 AM | | *DATE MODIFIED:* | 5/14/2015 8:40 AM | |

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| 20. Complete the table.   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *x* | –6 | –4 | 0 | 1 | 4 | | *f*(*x*) |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | |  | a. | ​   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *x* | ​–6 | ​–4 | 0 | ​1 | ​4 | | *f*(*x*) | ​9 | ​7 | ​–3 | ​1 | ​4 |   ​ | |  | b. | ​   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *x* | ​–6 | ​–4 | 0 | ​1 | ​4 | | *f*(*x*) | ​7 | ​6 | ​4 | ​3 | ​6 |   ​ | |  | c. | ​   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *x* | ​–6 | ​–4 | 0 | ​1 | ​4 | | *f*(*x*) | ​7 | ​6 | ​4 | ​1 | ​4 |   ​ | |  | d. | ​   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *x* | ​–6 | ​–4 | 0 | ​1 | ​4 | | *f*(*x*) | ​7 | ​6 | ​0 | ​1 | ​4 |   ​ | |  | e. | ​   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | *x* | ​–6 | ​–4 | 0 | ​1 | ​4 | | *f*(*x*) | ​7 | ​8 | ​4 | ​4 | ​1 |   ​ |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.57 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 10/22/2014 5:34 AM | |

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| 21. Find all real values of *x* such that *f*(*x*) = 0.  ​  *f*(*x*) = 12 – 2*x*  ​   |  |  |  | | --- | --- | --- | |  | a. | *x* = 6 | |  | b. | *x* = 5 | |  | c. | *x* = 7 | |  | d. | *x* = 4 | |  | e. | *x* = 8 |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.59 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 10/22/2014 5:36 AM | |

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| 22. Find all real value of *x* such that *f* (*x*) = 0.   |  |  |  | | --- | --- | --- | |  | a. | *x* = | |  | b. | *x* = | |  | c. | *x* = ± | |  | d. | *x* = | |  | e. | *x* = ± |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.61 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 5/14/2015 5:32 AM | |

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| 23. Find all real values of *x* such that *f*(*x*) = 0.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. | *x* = ±12 | |  | b. | *x* = ±13 | |  | c. | *x* = ±11 | |  | d. | *x* = ±10 | |  | e. | *x* = ±9 |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.62 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 10/22/2014 5:38 AM | |

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| 24. Find all real values of *x* such that *f*(*x*) = 0.  ​  *f*(*x*) = *x*2 – 8*x* – 20  ​   |  |  |  | | --- | --- | --- | |  | a. | *x* = –10, 2 | |  | b. | *x* = –10, –2 | |  | c. | *x* = 2, 10 | |  | d. | *x* = –2, 10 | |  | e. | *x* = –8, 8 |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.64 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 10/22/2014 5:43 AM | |

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| 25. Find the domain of the function.  ​  f(x) = 2*x*2 + 4*x* – 5  ​   |  |  |  | | --- | --- | --- | |  | a. | All real numbers *x* such that *x* > 0 | |  | b. | All real numbers *x* | |  | c. | All real numbers *x* such that *x* < 0 | |  | d. | Non-negative real numbers *x* | |  | e. | Non-negative real numbers *x* except *x* = 0 |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.71 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/24/2014 10:19 AM | |

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| 26. Find the domain of the function.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. | All real numbers *t* except *t* = 0 | |  | b. | Negative real numbers *t* | |  | c. | All real numbers *t* such that *t* > 0 | |  | d. | Non-negative real numbers *t* | |  | e. | All real numbers *t* such that *t* = 0 |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.73 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/24/2014 10:18 AM | |

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| 27. Find the domain of the function.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. | Non-negative real numbers *x* except *x* = 4 | |  | b. | All real numbers *x* except *x* = 0 | |  | c. | Non-negative real numbers *x* | |  | d. | All real numbers *x* | |  | e. | All real numbers *x* such that *x* > 0 |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.81 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/24/2014 10:20 AM | |

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| 28. Find the domain of the function.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. | Non-negative real numbers *x* | |  | b. | All real numbers *x* | |  | c. | All real numbers *x* such that *x* > –4 | |  | d. | Non-negative real numbers *x* except *x* =4 | |  | e. | All real numbers *x* such that *x* < 4 |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.80 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/24/2014 10:21 AM | |

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| 29. Assume that the domain of *f* is the set *A* = {–5, –3, 0, 3, 5}. Determine the set of ordered pairs that represents the function *f*.  ​  *f*(*x*) = *x*2  ​   |  |  |  | | --- | --- | --- | |  | a. | {(–5, 25), (–3, 81), (0, 0), (3, 81), (5, 25)} | |  | b. | {(–5, –125), (–3, 9), (0, 0), (3, 9), (5, –125)} | |  | c. | {(–5, 25), (–3, –27), (0, 0), (3, –27), (5, 25)} | |  | d. | {(–5, 625), (–3, 9), (0, 0), (3, 9), (5, 625)} | |  | e. | {(–5, 25), (–3, 9), (0, 0), (3, 9), (5, 25)} |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.83 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 10/22/2014 5:48 AM | |

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| 30. Assume that the domain of *f* is the set *A* = {–4, –2, 0, 2, 3}. Determine the set of ordered pairs that represents the function *f*.  ​  *f*(*x*) = (*x* – 3)2  ​   |  |  |  | | --- | --- | --- | |  | a. | {(–4, 49), (–2, 1), (0, 9), (2, 625), (3, 49)} | |  | b. | {(–4, –343), (–2, 1), (0, 9), (2, 25), (3, –343)} | |  | c. | {(–4, 49), (–2, –125), (0, 0), (2, –125), (3, 49)} | |  | d. | {(–4, 2401), (–2, 1), (0, 0), (2, 25), (3, 2401)} | |  | e. | {(–4, 49), (–2, 25), (0, 9), (2, 1), (3, 0)} |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.84 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 10/22/2014 5:49 AM | |

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| 31. Assume that the domain of *f* is the set *A* = {–5, –2, 0, 2, 3}. Determine the set of ordered pairs that represents the function *f*.  ​  *f*(*x*) = |*x* + 1|  ​   |  |  |  | | --- | --- | --- | |  | a. | {(–5, 4), (–2, 3), (0, 1), (2, 4), (3, 3)} | |  | b. | {(–5, 4), (–2, 4), (0, 1), (2, 4), (3, 4)} | |  | c. | {(–5, 7), (–2, 3), (0, 1), (2, 1), (3, 7)} | |  | d. | {(–5, 4), (–2, 1), (0, 1), (2, 3), (3, 4)} | |  | e. | {(–5, 6), (–2, 1), (0, 1), (2, 3), (3, 6)} |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.86 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 10/22/2014 5:51 AM | |

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| 32. A rectangle is bounded by the *x*-axis and the semicircle  (see figure). Select the area *A* of the rectangle as a function of *x,* and determine the domain of the function.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. | , –7 ≤ *x* ≤ 7 | |  | b. | , –7 ≤ *x* ≤ 7 | |  | c. | , *x* ≥ 0 | |  | d. | , *x* ≥ 0 | |  | e. | , all real numbers |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.92 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 10/22/2014 5:53 AM | |

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| 33. Find all real values of *x* such that *f*(*x*) = 0.  ​  *f*(*x*) = *x*3 – *x*2 – 9*x* + 9  ​   |  |  |  | | --- | --- | --- | |  | a. | *x* = 0, 3 | |  | b. | *x* = 1, –3 | |  | c. | *x* = 0, –3 | |  | d. | *x* = 1, 3 | |  | e. | *x* = 1, ±3 |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.66 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 10/22/2014 5:55 AM | |

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| 34. Find the difference quotient and simplify your answer.  ​  *f*(*x*) = *x*2 – *x* + 1, , *h* ≠ 0  ​   |  |  |  | | --- | --- | --- | |  | a. | , *h* ≠ 0 | |  | b. | , *h* ≠ 0 | |  | c. | , *h* ≠ 0 | |  | d. | , *h* ≠ 0 | |  | e. | , *h* ≠ 0 |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.103 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 10/22/2014 6:03 AM | |

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| 35. Find the difference quotient and simplify your answer.  ​  *f*(*x*) = 5*x* – *x*2, , *h* ≠ 0  ​   |  |  |  | | --- | --- | --- | |  | a. | , *h* ≠ 0 | |  | b. | , *h* ≠ 0 | |  | c. | , *h* ≠ 0 | |  | d. | , *h* ≠ 0 | |  | e. | , *h* ≠ 0 |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.104 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 10/22/2014 6:07 AM | |

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| 36. Does the table describe a function?   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Input value | 2001 | 2002 | 2003 | 2004 | 2005 | | Output value | 20 | 50 | 20 | 40 | 30 |  |  |  |  | | --- | --- | --- | |  | a. | No | |  | b. | Yes |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.13 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 10/22/2014 6:09 AM | |

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| 37. Does the table describe a function?   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Input value | 20 | 40 | 20 | 30 | 50 | | Output value | 2001 | 2002 | 2003 | 2004 | 2005 |  |  |  |  | | --- | --- | --- | |  | a. | Yes | |  | b. | No |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.14 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/10/2014 4:17 PM | |

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| 38. Does the table describe a function?   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Input value | 5 | 10 | 14 | 10 | 5 | | Output value | –13 | –8 | 0 | 8 | 13 |  |  |  |  | | --- | --- | --- | |  | a. | Yes | |  | b. | No |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.11 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 6/10/2014 4:17 PM | |

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| 39. Does the table describe a function?   |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | | Input value | –5 | –3 | 0 | 3 | 5 | | Output value | –3 | –3 | –3 | –3 | –3 |  |  |  |  | | --- | --- | --- | |  | a. | No | |  | b. | Yes |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.12 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 10/22/2014 6:11 AM | |

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| 40. Which set of ordered pairs represents a function from *P* to *Q*?  *P* = {5, 10, 15, 20}                  *Q* = {–1, 1, 3}  ​   |  |  |  | | --- | --- | --- | |  | a. | {(5, 3), (15, 1), (5, –1), (15, 3)} | |  | b. | {(15, –1), (15, 1), (15, 3)} | |  | c. | {(5, –1), (10, 1), (10, 3), (15, 1), (20, –1)} | |  | d. | {(15, 1), (10, –1), (5, 1), (10, 3), (15, –1)} | |  | e. | {(5, –1), (10, 1), (15, 3), (20, –1)} |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.15 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/25/2014 9:09 AM | |

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| 41. Which equation does not represent *y* as a function of *x*?  ​   |  |  |  | | --- | --- | --- | |  | a. | ​2*x* = 8*y* | |  | b. | –4*y* = –8 | |  | c. | ​5*x*2 + 5*y* = 3 | |  | d. | ​3*x* + 6*y* = –5 | |  | e. | ​7*y*2 + 8*x* = 9 |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.21 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/25/2014 9:21 AM | |

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| 42. Which equation does not represent *y* as a function of *x*?  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. | *y* = |–2 + 7*x*2| | |  | c. | *x* = –6*y* - 2 | |  | d. | *x* = –8 | |  | e. | *y* = –3*x* + 5 |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.33 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/25/2014 9:52 AM | |

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| 43. Evaluate the function at the specified value of the independent variable and simplify.  *g*(*s*) = 3*s* + 1  *g*(–18)   |  |  |  | | --- | --- | --- | |  | a. | *g*(–18) = –55 | |  | b. | *g*(–18) = –54*s* + 3 | |  | c. | *g*(–18) = –18*s* - 1 | |  | d. | *g*(–18) = –18*s* + 1 | |  | e. | *g*(–18) = –53 |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.38 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 5/14/2015 5:27 AM | |

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| 44. ​Evaluate the function at the specified value of the independent variable and simplify.  ​  ​*g*()  ​   |  |  |  | | --- | --- | --- | |  | a. | ​*g*() = | |  | b. | ​*g*() = | |  | c. | ​*g*() = | |  | d. | ​*g*() = 5 | |  | e. | ​*g*() = |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 9/25/2014 10:36 AM | | *DATE MODIFIED:* | 10/22/2014 6:22 AM | |

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| 45. Find all real values of *x* such that *f*(*x*) = 0.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. | *x* = 2 | |  | b. | *x* = | |  | c. | *x* = | |  | d. | *x* = | |  | e. | *x* = |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.61 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 10/22/2014 5:37 AM | |

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| 46. Find all real value of *x* such that *f* (*x*) = 0.  *f*(*x*) = 64*x*2 – 36   |  |  |  | | --- | --- | --- | |  | a. | ​*x* = ± | |  | b. | ​*x* = ± | |  | c. | ​*x* = – | |  | d. | ​*x* = | |  | e. | ​*x* = ± |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.63 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 5/14/2015 5:36 AM | |

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| 47. Find the value(s) of *x* for which *f* (*x*) = *g* (*x*).  *f*(*x*) = *x*2 + *x* – 13              *g*(*x*) = –5*x* + 3   |  |  |  | | --- | --- | --- | |  | a. | x= –8, 2 | |  | b. | x= 8, –2 | |  | c. | x= –13, 1, | |  | d. | x= –13, –14, | |  | e. | x= 12, |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.68 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 5/14/2015 5:44 AM | |

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| 48. Find the domain of the function.   |  |  |  | | --- | --- | --- | |  | a. | *w* = –6, *w* = 0​ | |  | b. | *w* = –6 | |  | c. | all real numbers *w* ≠ –6, *w* ≠ 0 | |  | d. | all real numbers | |  | e. | all real numbers *w* ≠ –6 |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.74 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 10/22/2014 6:30 AM | |

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| 49. Find the difference quotient and simplify your answer.  ​  f(*y*) = 6*y*2 - 3*y*, , *h* ≠ 0  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 2.2.105 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 10/22/2014 6:35 AM | |

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| 50. Evaluate the function at the specified value of the independent variable and simplify.  *q*(*p*) = –6*p* - 3  *q*(–2.6)  ​   |  |  |  | | --- | --- | --- | |  | a. | *q*(–2.6) = 15.6*p* + 18 | |  | b. | *q*(–2.6) = 18.6 | |  | c. | *q*(–2.6) = 12.6 | |  | d. | *q*(–2.6) = –2.6*p* - 3 | |  | e. | *q*(–2.6) = –2.6*p* + 3 |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 10 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 5/14/2015 6:11 AM | |

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| 51. Evaluate the function at the specified value of the independent variable and simplify.  *f*(*y* - 5)​   |  |  |  | | --- | --- | --- | |  | a. | ​*f*(*y* - 5)=  ​ | |  | b. | ​*f*(*y* - 5)=  ​ | |  | c. | ​*f*(*y* - 5)=  ​ | |  | d. | ​*f*(*y* - 5)=  ​ | |  | e. | *f*(*y* - 5)=  ​  ​ |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 12 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 5/14/2015 6:02 AM | |

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| 52. Find the domain of the function.   |  |  |  | | --- | --- | --- | |  | a. | –9 ≤ *p* ≤ 9 | |  | b. | *p* ≤ –9 or *p* ≥ 9 | |  | c. | *p* ≥ 0 | |  | d. | *p* ≤ 9 | |  | e. | all real numbers |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 17 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 10/22/2014 6:43 AM | |

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| 53. Let the function  be defined by the equation , where  and  are real numbers. Find the domain of the function ​   |  |  |  | | --- | --- | --- | |  | a. | ​domain: | |  | b. | ​​domain: | |  | c. | ​domain: | |  | d. | ​domain: | |  | e. | ​domain: |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 5/14/2015 7:02 AM | | *DATE MODIFIED:* | 5/14/2015 9:24 AM | |

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| 54. Let the function *f* be defined by the equation *y* = *f* (*x*) , where *x* and *f* (*x*) are real numbers. Find the domain and range of the function .  ​   |  |  |  | | --- | --- | --- | |  | a. | domain: | |  | b. | domain: | |  | c. | domain: | |  | d. | domain: | |  | e. | domain: |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 5/14/2015 9:27 AM | |

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| 55. Find the graph of the equation.  ​  *f* (*x*) = | *x* - 4 |  ​   |  |  |  |  |  | | --- | --- | --- | --- | --- | |  | a. |  | b. |  | |  | c. |  | d. |  |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/26/2014 11:24 AM | |

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| 56. Evaluate the difference quotient for the function.  ​  *f* (*x*) = 2*x* - 7  ​   |  |  |  | | --- | --- | --- | |  | a. | –7 | |  | b. |  | |  | c. | 7 | |  | d. | 2*x* + 7 | |  | e. | 2 |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/26/2014 11:25 AM | |

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| Indicate whether the equation determines *y* to be a function of *x*. Match each equation with the corresponding answer.  ​  *Choose the correct letter for each question.*   |  |  | | --- | --- | | a. | *y* – 2*x* = 0 | | b. | *x* = –2 |  |  |  | | --- | --- | | *QUESTION TYPE:* | Matching | | *HAS VARIABLES:* | False | | *DATE CREATED:* | 6/10/2014 4:17 PM | | *DATE MODIFIED:* | 9/26/2014 11:32 AM | |

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| 57. yes   |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | |

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| --- | --- | --- | --- | --- |
| 58. no   |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | |