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| 1. Find (if possible) the complement of the following angle.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. | Complement: | |  | b. | Complement: | |  | c. | Complement: | |  | d. | Complement: | |  | e. | Complement: |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.31a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/13/2014 9:13 AM | |

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| 2. Find (if possible) the supplement of the following angle.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. | Supplement: | |  | b. | Supplement: | |  | c. | Supplement: | |  | d. | Supplement: | |  | e. | Supplement: |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.32a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/13/2014 9:37 AM | |

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| 3. Find the complement of the following angle. Round your answer to two decimal places.  ​  1.1  ​   |  |  |  | | --- | --- | --- | |  | a. | Complement ≈ 1.1 | |  | b. | Complement ≈ 0.47 | |  | c. | Complement ≈ 4.04 | |  | d. | Complement ≈ 2.04 | |  | e. | Complement ≈ 2.51 |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.34b | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/13/2014 9:42 AM | |

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| 4. Find the quadrant in which the given angle lies.  ​  116°  ​   |  |  |  | | --- | --- | --- | |  | a. | Quadrant I | |  | b. | Quadrant IV | |  | c. | Quadrant III | |  | d. | Quadrant II | |  | e. | None of the above |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.41a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/13/2014 9:45 AM | |

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| 5. Find the quadrant in which the given angle lies.  ​  –128° 50'  ​   |  |  |  | | --- | --- | --- | |  | a. | Quadrant III | |  | b. | Quadrant I | |  | c. | Quadrant IV | |  | d. | Quadrant II | |  | e. | None of the above |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.43a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/13/2014 9:50 AM | |

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| 6. Find the quadrant in which the given angle lies.  ​  –13°  ​   |  |  |  | | --- | --- | --- | |  | a. | Quadrant I | |  | b. | Quadrant II | |  | c. | Quadrant IV | |  | d. | Quadrant III | |  | e. | None of the above |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.44b | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/13/2014 9:57 AM | |

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| 7. Find the complement of the following angle.  ​  14°  ​   |  |  |  | | --- | --- | --- | |  | a. | Complement: 242° | |  | b. | Complement: 14° | |  | c. | Complement: 76° | |  | d. | Complement: 166° | |  | e. | Complement: 77° |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.53a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/13/2014 10:14 AM | |

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| 8. Find the supplement of the following angle.  ​  148°  ​   |  |  |  | | --- | --- | --- | |  | a. | Supplement: 212° | |  | b. | Supplement: 148° | |  | c. | Supplement: 32° | |  | d. | Supplement: 58° | |  | e. | Supplement: 33 |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.54b | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/13/2014 10:19 AM | |

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| 9. Find angle 45° in radian measure as a multiple of *π*.  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. | 4*π* | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.57a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/13/2014 10:33 AM | |

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| 10. Find angle –20° in radian measure as a multiple of *π*.  ​   |  |  |  | | --- | --- | --- | |  | a. | 9*π* | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.59a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/13/2014 10:41 AM | |

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| 11. Find angle  in degree measure.  ​   |  |  |  | | --- | --- | --- | |  | a. | 270° | |  | b. | 275° | |  | c. | 145° | |  | d. | 135° | |  | e. | 245° |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.61a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/13/2014 10:54 AM | |

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| 12. Find angle  in degree measure.  ​   |  |  |  | | --- | --- | --- | |  | a. | 15° | |  | b. | 10° | |  | c. | 25° | |  | d. | 20° | |  | e. | 55° |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.62b | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/13/2014 10:58 AM | |

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| 13. Convert the angle measure from degrees to radians. Round your answer to three decimal places.  ​  90°  ​   |  |  |  | | --- | --- | --- | |  | a. | 90° ≈ 1.471 radians | |  | b. | 90° ≈ 9.549 radians | |  | c. | 90° ≈ 0.090 radian | |  | d. | 90° ≈ 1.871 radians | |  | e. | 90° ≈ 1.571 radians |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.65 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/14/2014 5:46 AM | |

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| 14. Convert the angle measure from degrees to radians. Round to three decimal places.  ​  –206.4°  ​   |  |  |  | | --- | --- | --- | |  | a. | –206.4° ≈ –3.902 radians | |  | b. | –206.4° ≈ –3.502 radians | |  | c. | –206.4° ≈ –3.602 radians | |  | d. | –206.4° ≈ 3.502 radians | |  | e. | –206.4° ≈ 3.602 radians |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.67 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/14/2014 5:33 AM | |

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| 15. Convert the angle measure from degrees to radians. Round to three decimal places.  ​  323°  ​   |  |  |  | | --- | --- | --- | |  | a. | 323° ≈ 5.637 radians | |  | b. | 323° ≈ 6.937 radians | |  | c. | 323° ≈ 5.537 radians | |  | d. | 323° ≈ 5.937 radians | |  | e. | 323° ≈ 0.323 radians |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.70 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/14/2014 5:36 AM | |

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| 16. Convert the angle measure from degrees to radians. Round to three decimal places.  ​  –0.51°  ​   |  |  |  | | --- | --- | --- | |  | a. | –0.51° ≈ –0.309 radian | |  | b. | –0.51° ≈ –0.091 radian | |  | c. | –0.51° ≈ –0.009 radian | |  | d. | –0.51° ≈ –1.309 radians | |  | e. | –0.51° ≈ –1.009 radians |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.71 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/14/2014 5:44 AM | |

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| 17. Convert the angle measure from radians to degrees. Round to three decimal places.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.73 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 5/14/2015 12:30 PM | |

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| 18. Convert the angle measure from radians to degrees. Round to three decimal places.  ​  ​   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.76 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 5/14/2015 12:32 PM | |

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| 19. Convert the angle measure from radians to degrees. Round to three decimal places.  ​  –6  ​   |  |  |  | | --- | --- | --- | |  | a. | –6 ≈ –354.075° | |  | b. | –6 ≈ –349.175° | |  | c. | –6 ≈ –343.775° | |  | d. | –6 ≈ –333.275° | |  | e. | –6 ≈ –338.175° |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.79 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/14/2014 6:49 AM | |

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| 20. Convert angle measure to decimal degree form. Round your answer to three decimal places.  ​  298°39'  ​   |  |  |  | | --- | --- | --- | |  | a. | 298°39' ≈ 337° | |  | b. | 298°39' ≈ 298.39° | |  | c. | 298°39' ≈ 308.65° | |  | d. | 298°39' ≈ 298.65° | |  | e. | 298°39' ≈ 288.65° |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.82a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/14/2014 7:04 AM | |

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| 21. Convert angle measure to decimal degree form. Round your answer to three decimal places.  ​  81° 19*'*28*''*  ​   |  |  |  | | --- | --- | --- | |  | a. | 81° 19*'*28*''* ≈ 81.324° | |  | b. | 81° 19*'*28*''* ≈ 81.193° | |  | c. | 81° 19*'*28*''* ≈ 91.324° | |  | d. | 81° 19*'*28*''* ≈ 128° | |  | e. | 81° 19*'*28*''* ≈ 71.324° |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.83a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/14/2014 7:35 AM | |

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| 22. Convert following angle measure to degrees, minutes, and seconds.  ​  218.7°  ​   |  |  |  | | --- | --- | --- | |  | a. | 218.7° ≈ 218°7*'* | |  | b. | 218.7° ≈ 218°42*'* | |  | c. | 218.7° ≈ 218°40*'* | |  | d. | 218.7° ≈ 218°44*'* | |  | e. | 218.7° ≈ 218°41*'* |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.85a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/14/2014 7:47 AM | |

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| 23. Convert following angle measure to degrees, minutes, and seconds.  –328.120°  ​   |  |  |  | | --- | --- | --- | |  | a. | –328.120° ≈ –328° 11*'* ​7*''* | |  | b. | –328.120° ≈ –328° 5*'* ​16*''* | |  | c. | –328.120° ≈ –328° 7*'*11*''* | |  | d. | –328.120° ≈ –328° 16*'*​5*''* | |  | e. | –328.120° ≈ –328° 5*'*11*''* |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.86a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/14/2014 8:02 AM | |

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| 24. Find the length of the arc on a circle of radius *r* intercepted by a central angle *θ*. Round to two decimal places.  ​   |  |  | | --- | --- | | *Radius r* | *Central Angle θ* | | 15 inches | ​123° |   ​   |  |  |  | | --- | --- | --- | |  | a. | *s* ≈ 32.20 inches | |  | b. | *s* ≈ 15.68 inches | |  | c. | *s* ≈ 10.25 inches | |  | d. | *s* ≈ 34.20 inches | |  | e. | *s* ≈ 30.20 inches |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.89 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/15/2014 4:04 AM | |

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| 25. Find the length of the arc on a circle of radius *r* intercepted by a central angle *θ*. Round to two decimal places.  ​   |  |  | | --- | --- | | *Radius r* | *Central Angle θ* | | 15 centimeters | ​66° |   ​   |  |  |  | | --- | --- | --- | |  | a. | *s* ≈ 19.28 centimeters | |  | b. | *s* ≈ 15.37 centimeters | |  | c. | *s* ≈ 17.28 centimeters | |  | d. | *s* ≈ 5.50 centimeters | |  | e. | *s* ≈ 15.28 centimeters |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.92 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/15/2014 4:05 AM | |

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| 26. Find the radian measure of the central angle of a circle of radius *r* that intercepts an arc of length *s.*  ​   |  |  | | --- | --- | | *Radius r* | *Arc Length s* | | 6 inches | ​20 inches |   ​  ​   |  |  |  | | --- | --- | --- | |  | a. | *θ =*​120 radians | |  | b. | *θ =* radians | |  | c. | *θ =* radians | |  | d. | *θ =* radians | |  | e. | *θ =*26 radians |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.93 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/15/2014 4:20 AM | |

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| 27. Find the radian measure of the central angle of a circle of radius *r* that intercepts an arc of length *s.*  ​   |  |  | | --- | --- | | *Radius r* | *Arc Length s* | | 80 kilometers | ​145 kilometers |   ​   |  |  |  | | --- | --- | --- | |  | a. | *θ =*​6 radians | |  | b. | *θ =*  radians | |  | c. | *θ =*  radians | |  | d. | *θ =*  radians | |  | e. | *θ =*​ radians |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.96 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/15/2014 5:00 AM | |

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| 28. Find the area of the sector of the circle with radius *r* and central angle *θ*. Round to two decimal places.  ​   |  |  | | --- | --- | | *Radius r* | *Central Angle θ* | | ​4 inches | ​ |   ​   |  |  |  | | --- | --- | --- | |  | a. | *A* ≈ 12.57 square inches | |  | b. | *A* ≈ 5.14 square inches | |  | c. | *A* ≈ 6.28 square inches | |  | d. | *A* ≈ 1.14 square inches | |  | e. | *A* ≈ 3.14 square inches |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.101 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/15/2014 5:10 AM | |

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| 29. An electric hoist is being used to lift a beam. The diameter of the drum on the hoist is 16 inches, and the beam must be raised 2 feet. Find the number of degrees through which the drum must rotate. Round your answer to nearest whole number.  ​  *​a* = 16, *b* = 2  ​   |  |  |  | | --- | --- | --- | |  | a. | *θ ≈*​177° | |  | b. | *θ ≈*​172° | |  | c. | *θ ≈*​162° | |  | d. | *θ ≈*​167° | |  | e. | *θ ≈*​192° |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.110 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 5/14/2015 12:49 PM | |

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| 30. A carousel with a 60-foot diameter makes 2 revolutions per minute. Find the angular speed of the carousel in radians per minute. Round your answer to two decimal places.  ​   |  |  |  | | --- | --- | --- | |  | a. | 2 rpm ≈ 61.85 radians per minute | |  | b. | 2 rpm ≈ 12.57 radians per minute | |  | c. | 2 rpm ≈ 18.85 radians per minute | |  | d. | 2 rpm ≈ 6.28 radians per minute | |  | e. | 2 rpm ≈ 58.23 radians per minute |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.112a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/15/2014 8:22 AM | |

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| 31. A sprinkler on a golf green is set to spray water over a distance of 12 meters and to rotate through an angle of 130°. Find the area of the region. Round your answer to two decimal places.  ​   |  |  |  | | --- | --- | --- | |  | a. | *A* ≈ 163.36 square meters | |  | b. | *A* ≈ 165.66 square meters | |  | c. | *A* ≈ 161.26 square meters | |  | d. | *A* ≈ 326.73 square meters | |  | e. | *A* ≈ 27.23 square meters |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.117 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 5/14/2015 12:56 PM | |

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| 32. Determine the quadrant in which an angle, *θ*, lies if .   |  |  |  | | --- | --- | --- | |  | a. | 4th quadrant | |  | b. | 2nd quadrant | |  | c. | 1st quadrant | |  | d. | 3rd quadrant |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.17b | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/17/2014 5:16 AM | |

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| 33. Determine the quadrant in which an angle, *θ*, lies if *θ* = 5.00 radians.   |  |  |  | | --- | --- | --- | |  | a. | 2nd quadrant | |  | b. | 4th quadrant | |  | c. | 3rd quadrant | |  | d. | 1st quadrant |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.21b | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/17/2014 5:17 AM | |

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| 34. Determine two coterminal angles (one positive and one negative) for .   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.29a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/17/2014 5:36 AM | |

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| 35. Find (if possible) the complement of .   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. | ​ | |  | e. | not possible |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.31a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/17/2014 5:58 AM | |

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| 36. Find (if possible) the supplement of .   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. | not possible |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.32b | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/17/2014 6:30 AM | |

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| 37. Determine the quadrant in which an angle with measure 114° lies.   |  |  |  | | --- | --- | --- | |  | a. | 4th quadrant | |  | b. | 2nd quadrant | |  | c. | 3rd quadrant | |  | d. | 1st quadrant |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.41a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/19/2014 6:37 AM | |

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| 38. Determine the quadrant in which an angle with measure –176°2*'* lies.   |  |  |  | | --- | --- | --- | |  | a. | 3rd quadrant | |  | b. | 2nd quadrant | |  | c. | 1st quadrant | |  | d. | 4th quadrant |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.43a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/19/2014 6:46 AM | |

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| 39. Determine two coterminal angles (one positive and one negative) for *θ* = –489°.   |  |  |  | | --- | --- | --- | |  | a. | 141°, –219° | |  | b. | 321°, –399° | |  | c. | 231°, –309° | |  | d. | 141°, –309° | |  | e. | 231°, –129° |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.51b | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/17/2014 6:43 AM | |

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| 40. Rewrite 95° in radian measure as a multiple of *π*.​  ​   |  |  |  | | --- | --- | --- | |  | a. | ​ | |  | b. | ​ | |  | c. | ​ | |  | d. | ​ | |  | e. | ​ |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.58a | | *QUESTION TYPE:* | Multiple Choice | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 11/17/2014 7:03 AM | | *DATE MODIFIED:* | 11/18/2014 5:48 AM | |

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| 41. Rewrite  in degree measure.   |  |  |  | | --- | --- | --- | |  | a. | 300° | |  | b. | 450° | |  | c. | 600° | |  | d. | 150° | |  | e. | 200° |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.62a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/18/2014 6:10 AM | |

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| 42. Rewrite  in degree measure. Round to three decimal places.   |  |  |  | | --- | --- | --- | |  | a. | 11.020° | |  | b. | 16.531° | |  | c. | 13.776° | |  | d. | 3.673° | |  | e. | 5.510° |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.64b | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/18/2014 6:49 AM | |

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| 43. Rewrite –219.80° in radian measure. Round to three decimal places.   |  |  |  | | --- | --- | --- | |  | a. | –0.767 | |  | b. | –0.691 | |  | c. | –0.460 | |  | d. | –0.575 | |  | e. | –3.836 |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.67 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/18/2014 7:02 AM | |

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| 44. Find the angle, in radians, in the figure below if *S* = 13 and *r* = 5.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.98 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/19/2014 7:46 AM | |

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| 45. Convert 134°24´40´´ to degree-decimal form. Round answer to three decimal places.   |  |  |  | | --- | --- | --- | |  | a. | 134.406° | |  | b. | 134.411° | |  | c. | 134.844° | |  | d. | 134.203° | |  | e. | 134.206° |  |  |  | | --- | --- | | *ANSWER:* | b | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.83a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/18/2014 8:47 AM | |

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| 46. Convert 185.447° to *D*°*M*´*S*´´ form.   |  |  |  | | --- | --- | --- | |  | a. | 185°13´25´´ | |  | b. | 185°22´41´´ | |  | c. | 185°20´37´´ | |  | d. | 185°6´12´´ | |  | e. | 185°26´49´´ |  |  |  | | --- | --- | | *ANSWER:* | e | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.83b | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/18/2014 9:12 AM | |

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| 47. Find the length of the arc, *S,* on a circle of radius 6 meters intercepted by a central angle of 90°. Round to two decimal places.   |  |  |  | | --- | --- | --- | |  | a. | *S* = 9.42 meters | |  | b. | *S* = 12.57 meters | |  | c. | *S* = 18.85 meters | |  | d. | *S* = 6.28 meters | |  | e. | *S* = 7.54 meters |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.91 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/18/2014 9:21 AM | |

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| 48. Find the radian measure of the central angle of the circle of radius 6 centimeters that intercepts an arc of length 32 centimeters.   |  |  |  | | --- | --- | --- | |  | a. |  | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | a | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.95 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/18/2014 9:49 AM | |

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| 49. Find the area of the sector of the circle with radius 2 centimeters and central angle .   |  |  |  | | --- | --- | --- | |  | a. | ​ | |  | b. |  | |  | c. |  | |  | d. |  | |  | e. |  |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.101 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/19/2014 8:12 AM | |

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| 50. A car is traveling along Route 66 at a rate of 55 miles per hour, and the diameter of its wheels are 2.7 feet. Find the number of revolutions per minute the wheels are turning. Round answer to one decimal place.   |  |  |  | | --- | --- | --- | |  | a. | 285.3 rpm | |  | b. | 845.3 rpm | |  | c. | 570.6 rpm | |  | d. | 108.1 rpm | |  | e. | 190.2 rpm |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *REFERENCES:* | 4.1.115a | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/18/2014 10:34 AM | |

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| 51. Determine the quadrant in which an angle, *θ*, lies if .   |  |  |  | | --- | --- | --- | |  | a. | 1st quadrant | |  | b. | 2nd quadrant | |  | c. | 3rd quadrant | |  | d. | 4th quadrant |  |  |  | | --- | --- | | *ANSWER:* | c | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/18/2014 10:44 AM | |

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| 52. Determine the quadrant in which an angle, *θ*, lies if *θ* = 5.10 radians.   |  |  |  | | --- | --- | --- | |  | a. | 1st quadrant | |  | b. | 2nd quadrant | |  | c. | 3rd quadrant | |  | d. | 4th quadrant |  |  |  | | --- | --- | | *ANSWER:* | d | | *POINTS:* | 1 | | *QUESTION TYPE:* | Multi-Mode (Multiple choice) | | *HAS VARIABLES:* | True | | *DATE CREATED:* | 6/10/2014 4:22 PM | | *DATE MODIFIED:* | 11/18/2014 10:46 AM | |