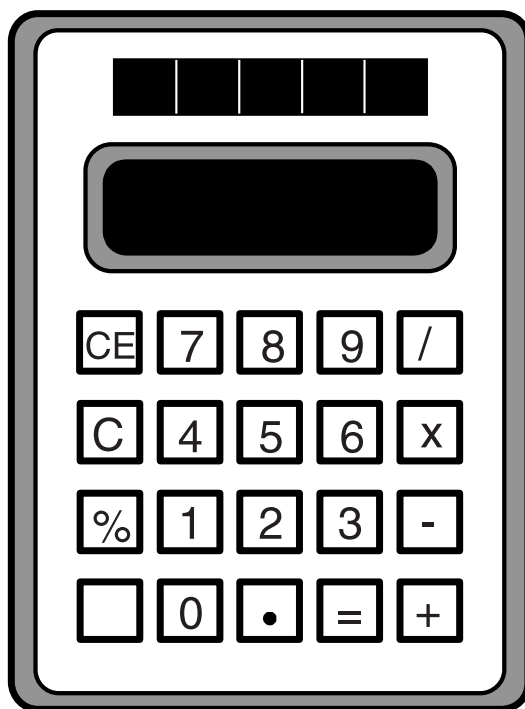


INVITATIONAL 2013-2014

A+ ACADEMICS



University Interscholastic League



Calculator Applications

**DO NOT OPEN TEST
UNTIL TOLD TO DO SO**

2013 - 2014 UIL MS/JH Calculator Test A

14S-1. $9.65 + 9.4$ ----- 1= _____

14S-2. $50 - 76 - 9$ ----- 2= _____

14S-3. $175 + 133 - 26$ ----- 3= _____

14S-4. $29 - 24 - 21 - \pi$ ----- 4= _____

14S-5. $180 - 148 - 239 + 137$ ----- 5= _____

14S-6. $61 - 26.5 - 19 - 92.6 + 107$ ----- 6= _____

14S-7. $(2.54 - 5.2) + (4.71 - 3.86 - 4.23)$ ----- 7= _____

14S-8. $1.11 + 0.876 + 0.878 + 0.667 + 0.174$ ----- 8= _____

14S-9. $228 \times 152 \times 205$ ----- 9= _____

14S-10. $346 \times 808 \times 326 \times 567$ ----- 10= _____

14S-11. What is the product of pi and 675? ----- 11= _____

14S-12. If today is November 6th, how many days are there until Christmas day of the same year? ----- 12= _____ days(Integer)

14S-13. If the average driver in Texas pays \$9.52 per month in state gasoline sales tax, and the state sales tax is 20 cents per gallon of gasoline, how many gallons of gasoline on average, does a driver in Texas purchase each month? ----- 13= _____ gal

14S-14. $-198 - [192/148 + \pi]$ ----- 14= _____

14S-15. $(78/20)[102 - 12]$ ----- 15= _____

14S-16. $\frac{709}{164} [(591/765) - 0.639]$ ----- 16= _____

14S-17. $\{476/393\} \left[\frac{634}{364 + 709} \right]$ ----- 17= _____

14S-18. $\left[\frac{(112 + 130)}{212/152} \right] \left[\frac{7.46}{34.4} \right]$ ----- 18= _____

14S-19. $\left[\frac{(192/1090) - (643/1400)}{0.00165/0.00165} \right]$ ----- 19= _____

14S-20. $\frac{1910 + 1280 + 1590}{(0.179)(8.07 \times 10^{-4})(0.00217)}$ ----- 20= _____

14S-21. $(600)[303/235 \times 208/327] - 440$ ----- 21= _____

14S-22. $\frac{(1560 \times 203)/1960}{(1780 \times 207) + 3.33 \times 10^5}$ ----- 22= _____

14S-23. $\frac{[-(800 + 1350)(1310 - 193)]}{(0.00152/0.173)}$ ----- 23= _____

14S-24. Fertilizer costs for a field of coastal hay amount to \$1100. If the person that bales the hay charges \$20 per "round" bale and 25 round bales are produced from the field of fertilized hay, what is the least amount one could charge for each round bale and "break even"? - 24= _____ \$/bale

14S-25. A salesman called me and offered to sell me a 180 day supply of pills for \$10.53 per 90 pills. If I take one pill per day and my last purchase of the same kind of pill cost me \$45 per 90 day supply, what is the positive difference in the cost per pill? ----- 25= _____ ¢/pill

14S-26. Last year Mackenzie was 33 1/2 inches tall. A year later she is 42 3/4 inches tall. What is her percent change in height? ----- 26= _____ %

14S-27. $[278 - (1270 + 660)] + [(-6.88)(461 - 345)]$ ----- 27=_____

14S-28. $0.00343[(0.0029/0.00758)(0.00197 + 0.00404)]$ ----- 28=_____

14S-29. $0.0255[(0.0828/0.0376)(0.0042/0.00553)]$ ----- 29=_____

14S-30. $\frac{1}{-0.305} + \frac{1}{(0.102 - 0.598)}$ ----- 30=_____

14S-31. $0.68 \left[\frac{(2.58 \times 10^{-4})}{(1.98 \times 10^7)} \right]$ ----- 31=_____

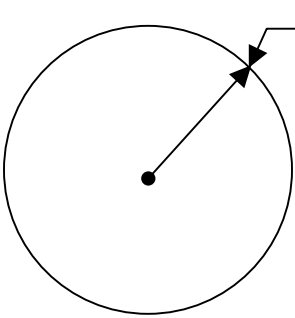
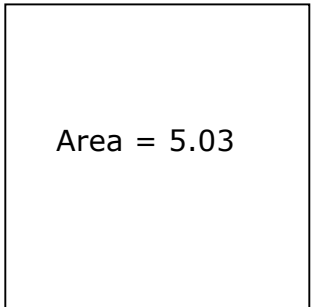
14S-32. $(27.2)[(3.68 \times 10^7) - (2.25 \times 10^7)]$ ----- 32=_____

14S-33. $\left[\frac{1/6720}{1/1690} \right] [1.43 \times 10^6]$ ----- 33=_____

14S-34. $\frac{1}{4330} - \frac{1}{1890} + \frac{1}{493}$ ----- 34=_____

14S-35. The distance an object travels while accelerating can be found by multiplying its initial speed by the time it moves plus one-half the product of its acceleration and that same time squared. If I am driving at a speed of 60 miles per hour(mph) and accelerate my car at the rate of 0.02 mph/sec, how far do I move in 8 seconds?----- 35=_____ ft

14S-36. Genny walks south with a speed of 4 ft/sec while Andy walks at the rate of 5 ft/sec due west. If both persons start at the same spot and the same time, how long does it take them to be 400 feet apart?-- 36=_____ min

<p>14S-37.</p> <p style="text-align: center;">CIRCLE</p> <div style="text-align: center;">  </div> <p style="text-align: center;">Circumference = ?</p> <p>14S-37=_____</p>	<p>14S-38.</p> <p style="text-align: center;">SQUARE</p> <div style="text-align: center;">  </div> <p style="text-align: center;">Perimeter = ?</p> <p>14S-38=_____</p>
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14S-39. $\left[\frac{9910 + (1/(2.22 \times 10^{-5}))}{(23500/22100) - 0.384} \right]^2$ ----- 39= _____

14S-40. $(16.7 + 11.2)^2(5.66 + 9.87)^2$ ----- 40= _____

14S-41. $(6.53 + 5.39 + 20)^2(3.08 + 3.49)^2$ ----- 41= _____

14S-42. $\sqrt{33500 - 31000 + 14400} - \sqrt{20200}$ ----- 42= _____

14S-43. $(1/\pi) \sqrt{\frac{0.0244 + 0.0334}{0.814 - 0.327}}$ ----- 43= _____

14S-44. $\sqrt{1.7} + \sqrt{3.71 + 8.1} - \pi\sqrt{9.24}$ ----- 44= _____

14S-45. $(85.8) \sqrt[4]{19900 + 55800 - 37100}$ ----- 45= _____

14S-46. $\frac{(77600 + 33800)^{1/2}}{(14500 - 1670)^{1/3}}$ ----- 46= _____

14S-47. It takes Mike 4 ½ hours to mow his dad’s front and back yards with a push mower. It takes him 48 minutes to mow the amount of yard with the riding lawn mower. One day, 30 minutes after he starts mowing with the riding lawn mower the mower stops working. How long does it take Mike to finish the mowing job with the push mower?----- 47= _____ min

14S-48. While working outside on a hot day Matt lost 3.75 pounds due to sweating. If his sweat-water weighs 8.556 pounds per gallon, how many liquid ounces of sweat-water did Matt sweat?----- 48= _____ oz

14S-49. RIGHT TRIANGLE

14S-49= _____

14S-50. RIGHT TRIANGLE

14S-50= _____

14S-51. $\sqrt{\frac{8.57}{(22700)(4130)} + \frac{(0.0165 - 0.0416)}{(40.2 + 24.3)}} \dots\dots\dots 51 = \underline{\hspace{2cm}}$

14S-52. $\left[\frac{\sqrt{\sqrt{954 - 825}}}{-(43.8 - 30.4)} \right]^3 [4210 + 980] \dots\dots\dots 52 = \underline{\hspace{2cm}}$

14S-53. $\left[\frac{34.3 + 26.5 + \sqrt{3180 + 525}}{251/159} \right]^3 \dots\dots\dots 53 = \underline{\hspace{2cm}}$

14S-54. $\sqrt{\frac{1/(533 - 81.1)}{(40.3)(27.9 + 20)^6}} \dots\dots\dots 54 = \underline{\hspace{2cm}}$

14S-55. $51100 + \sqrt{(81500)(18800)} - (25300 + 21700) \dots\dots\dots 55 = \underline{\hspace{2cm}}$

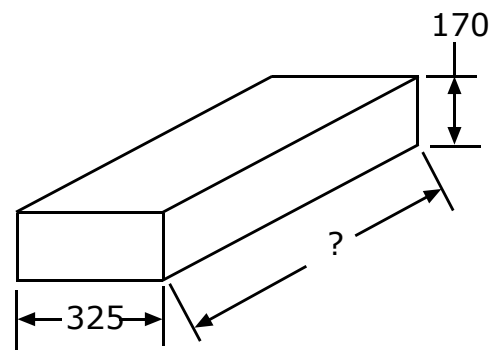
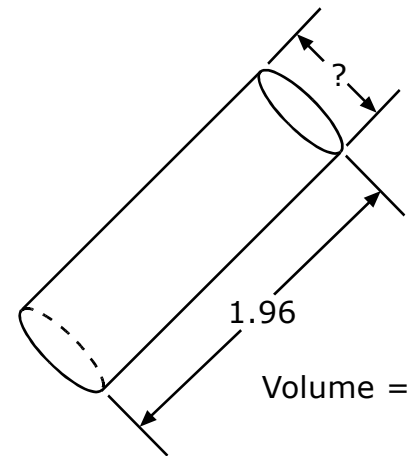
14S-56. $0.487 + \sqrt{(1920)/(352)} - (0.931 + 1.21)^2 \dots\dots\dots 56 = \underline{\hspace{2cm}}$

14S-57. $\sqrt{\frac{1/(562 - 441)}{(1660)(6730 + 5340)^5}} \dots\dots\dots 57 = \underline{\hspace{2cm}}$

14S-58. $(\text{rad}) \cos(6.01) + (8.58/6.85) \dots\dots\dots 58 = \underline{\hspace{2cm}}$

14S-59. My garden hose will fill up a 5-gallon bucket in 2 minutes 10 seconds. How long will it take me to uniformly water a rectangular shaped yard that measures 60 feet by 45 feet, to a depth of one-tenth of an inch? $\dots\dots\dots 59 = \underline{\hspace{2cm}}$ min

14S-60. A pitcher's earned run average is the average number of earned runs scored against the pitcher per nine innings. This average is calculated by taking the total number of earned runs scored while the pitcher is pitching and dividing that total by the total number of innings pitched and that amount multiplied by nine. If one of the Texas Ranger's pitchers has 5 earned runs scored against him while pitching 32 innings, what is his earned run average? $\dots\dots\dots 60 = \underline{\hspace{2cm}}$

<p>14S-61. RECTANGULAR BOX</p>  <p style="text-align: center;">Volume = 2.42×10^7</p> <p>14S-61= _____</p>	<p>14S-62. RIGHT CYLINDER</p>  <p style="text-align: center;">Volume = 0.748</p> <p>14S-62= _____</p>
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14S-63. $\frac{19! + 18!}{12!}$ ----- 63= _____

14S-64. (deg) $(3220 + 1950)\sin(143^\circ)$ ----- 64= _____

14S-65. $(3.16 \times 10^6 - 4.91 \times 10^6)^{10}(3.88 \times 10^7)$ ----- 65= _____

14S-66. (deg) $[191]\cos(6.33^\circ - 20.8^\circ)$ ----- 66= _____

14S-67. (rad) $\frac{\tan(7.07)}{111/266}$ ----- 67= _____

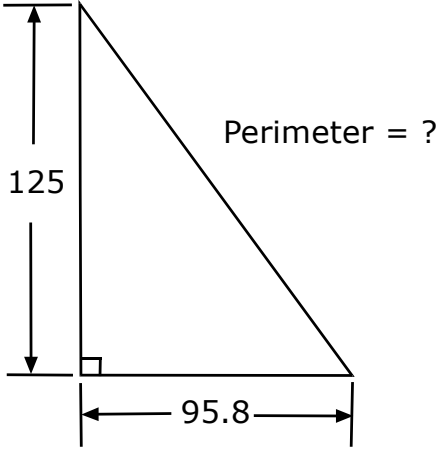
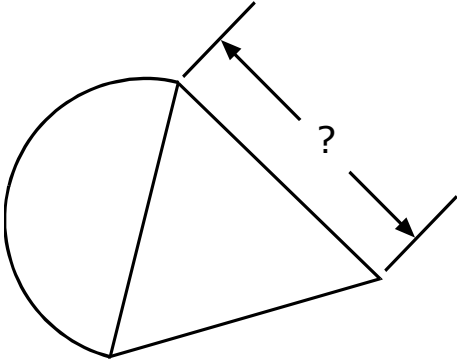
14S-68. (deg) $\frac{\sin(0.355^\circ) - \tan(0.355^\circ)}{\sin(0.355^\circ)}$ ----- 68= _____

14S-69. (rad) $(93.6)\sin(41.9)$ ----- 69= _____

14S-70. $\left[(48.2) \left(\frac{499}{(27.3)(\pi)} \right) \right]^{7/2}$ ----- 70= _____

14S-71. A certain candle that is 4 inches in diameter and 6 inches tall is brand new when it is first lit. Ten hours of continuous burning later the candle is $5 \frac{1}{2}$ inches tall. If the candle stays lit for 48 more hours how tall is the candle now? ----- 71= _____ in

14S-72. Twice a certain number, greater than 1, plus its reciprocal is 10. What is that number?----- 72= _____

<p>14S-73.</p> <p style="text-align: center;">RIGHT TRIANGLE</p>  <p style="text-align: center;">Perimeter = ?</p> <p>14S-73= _____</p>	<p>14S-74.</p> <p style="text-align: center;">SEMICIRCLE & EQUILATERAL TRIANGLE</p>  <p style="text-align: center;">Total Area = 0.00825</p> <p>14S-74= _____</p>
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14S-75. $\text{Ln} \left[\frac{81.1 + 199 + 25.9}{512 + 426 - 269} \right]$ ----- 75= _____

14S-76. $\frac{0.124 + \sqrt{(0.158)(0.138) + (0.104)(0.929)}}{\sqrt{\sqrt{0.522 + 0.219}}}$ ----- 76= _____

14S-77. $2\text{Log} \sqrt{\frac{(4.21)(2.68)}{1.16 + \pi}}$ ----- 77= _____

14S-78. $\frac{\text{Log}[28800 + (1180)(24.9)]}{0.443 + \text{Log}[8.91 + 8.25]}$ ----- 78= _____

14S-79. $1 + 2 + 3 + \dots + 747$ ----- 79= _____

14S-80. $1 + (0.21) + \frac{(0.21)^2}{2} + \frac{(0.21)^3}{6} + \frac{(0.21)^4}{24}$ ----- 80= _____

2013 - 2014 UIL MS/JH Calculator Test A – Answer Key

14S-1	= 19.1 = 1.91×10^1	14S-14	= -202 = -2.02×10^2	14S-27	= -2450 = -2.45×10^3
14S-2	= -35.0 = -3.50×10^1	14S-15	= 351 = 3.51×10^2	14S-28	= 7.89×10^{-6}
14S-3	= 282 = 2.82×10^2	14S-16	= 0.577 = 5.77×10^{-1}	14S-29	= 0.0426 = 4.26×10^{-2}
14S-4	= -19.1 = -1.91×10^1	14S-17	= 0.716 = 7.16×10^{-1}	14S-30	= -5.29 = -5.29×10^0
14S-5	= -70.0 = -7.00×10^1	14S-18	= 37.6 = 3.76×10^1	14S-31	= 8.86×10^{-12}
14S-6	= 29.9 = 2.99×10^1	14S-19	= -0.283 = -2.83×10^{-1}	14S-32	= 3.89×10^8
14S-7	= -6.04 = -6.04×10^0	14S-20	= 1.52×10^{10}	14S-33	= 360000 = 3.60×10^5
14S-8	= 3.71 = 3.71×10^0	14S-21	= 52.1 = 5.21×10^1	14S-34	= 0.00173 = 1.73×10^{-3}
14S-9	= 7.10×10^6	14S-22	= 0.000230 = 2.30×10^{-4}	14S-35	= 705 = 7.05×10^2
14S-10	= 5.17×10^{10}	14S-23	= -2.73×10^8	14S-36	= 1.04 = 1.04×10^0
14S-11	= 2120 = 2.12×10^3	14S-24	= 64.00	14S-37	= 0.283 = 2.83×10^{-1}
14S-12	= 49 (Integer)	14S-25	= 38.3 = 3.83×10^1	14S-38	= 8.97 = 8.97×10^0
14S-13	= 47.6 = 4.76×10^1	14S-26	= 27.6 = 2.76×10^1		

2013 - 2014 UIL MS/JH Calculator Test A - Answer Key

14S-39	= 6.54x10 ⁹	14S-51	= -8.68x10 ⁻⁵	14S-61	= 438	14S-73	= 378
14S-40	= 188000	14S-52	= -82.6	14S-62	= 0.697	14S-74	= 0.100
14S-41	= 44000	14S-53	= 458000	14S-63	= 2.67x10 ⁸	14S-75	= -0.782
14S-42	= -12.1	14S-54	= 6.74x10 ⁻⁸	14S-64	= 3110		= -7.82x10 ⁻¹
14S-43	= 0.110	14S-55	= 43200	14S-65	= 1.05x10 ⁷⁰	14S-76	= 0.397
14S-44	= -4.81	14S-56	= -1.76	14S-66	= 185	14S-77	= 0.419
14S-45	= 1200	14S-57	= 1.39x10 ⁻¹³	14S-67	= 2.40		= 4.19x10 ⁻¹
14S-46	= 14.3	14S-58	= 2.22	14S-68	= -1.92x10 ⁻⁵	14S-78	= 2.84
14S-47	= 101	14S-59	= 72.9	14S-69	= -81.6		= 2.84x10 ⁰
14S-48	= 56.1	14S-60	= 1.41	14S-70	= 3.69x10 ⁸	14S-79	= 279000
14S-49	= 0.882		= 1.41x10 ⁰	14S-71	= 3.60		= 2.79x10 ⁵
	= 8.82x10 ⁻¹				= -8.16x10 ¹	14S-80	= 1.23
14S-50	= 50700			14S-72	= 4.90		= 1.23x10 ⁰
	= 5.07x10 ⁴				= 4.90x10 ⁰		