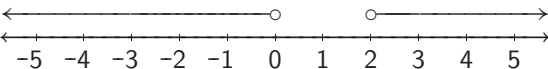




2009 OCTM CONTEST ANSWER KEY

SCORE: _____

Answers for questions 1–20 must be exact
and in simplest form.

1. 18
2. secant
3. 2394
4. $\frac{200}{9}$ or $22.\bar{2}$ or $22\frac{2}{9}$
5. -3.7 hot dogs
6. $2ab^3 + 2$
7. (a) T F (b) T F (c) T F
8. $\frac{\sqrt{7}}{4}$ or $0.25\sqrt{7}$
9. 80
10. $(-\sqrt{3}, 1)$
11. $\frac{20,090}{m}$
12. C
13. $275\sqrt{73}$
14. -5999
15. $x = 0$ or 0
16. $\frac{3}{8}$ or 0.375
17. C
18. $z = 1800$
19. 90
20. 

Answers for questions 21–40 may be exact
OR correctly rounded to four decimal places.

21. \$7991
22. (a) T F (b) T F (c) T F
23. $\frac{49}{25}$ or $\frac{98}{50}$ or 1.96
24. (i) B (ii) D
25. $f(x) = x^4 - 4x^3 + 13x^2 - 36x + 36$
26. 60, 120, 240, 300 — *need all*
27. 50
28. $28\sqrt{41}$ or $4\sqrt{2009}$ or 179.2875 inches
29. (4, 9) or (8, 9) or (9, 10) — *need only one*
30. 2000 cm
31. $x = 5$ or 5
32. $xy = 1$
33. 55 inches
34. 2672_{nine}
35. $b = 12$
36. 41 years old
37. 2, 3, 5, 6, 8, 17, 30, 56 — *need all*
38. Florence Nightingale
39. 150 sq. units
40. $\frac{dr}{d-2r}$ mph