ACROSS
1. Like some avengers
2. Like show horses’ feet
3. Marines ranked just above Pfts.
4. Pain reliever brand
5. Source of protein for vegetarians
6. The E in QED
*17. 2006 (Australian)
19. Constellation whose principal star is Vega
20. Signal used to find shipwrecks
21. Term for bad, watered down beer
22. Bath sponge
23. “Get _______!”
24. Stomach malady
25. Like some numbers
26. Islamic equivalent of kosher
27. Gawk at
28. Type of plane transformation
*22. 1950 (French)
29. Willy of “Free Willy”
30. “Skinny Legs _______”: 1990 Tom Robbins novel
31. Common ending of chemical sugars
32. What the answers to all of the starred clues are
33. Birth mo. of Euler
34. Solvent formed when a hydroxyl group is protonated
35. Adjective that describes the set \( \mathbb{Q} \) vis-a-vis the set \( \mathbb{R} \), e.g.
36. Solvent formed when a hydroxyl group is protonated
37. Ends of prayers
38. Widespread ending of chemical sugars
39. What the answers to all of the starred clues are
40. Birth mo. of Euler
41. Solvent formed when a hydroxyl group is protonated
42. Style of jazz singing
43. Auguste Chevalier, to Evariste Galois
44. Colt’s mother
*45. 1954 (French)
46. Drummer with Lennon and McCartney
47. Cosmetician Lauder
48. Reduces the amplitude of an oscillating system
49. “Woe ______!”
50. Drummer with Lennon and McCartney
51. Mathematician and pioneering computer scientist Lovelace, credited with writing the first ever computer program
52. Algebraic geometer Zariski, 1981 Wolf Prize winner
53. Mathematician and pioneering computer scientist Lovelace, credited with writing the first ever computer program
54. Widely used text: “Abstract Algebra” by Dummit & ______
55. Widespread ending of chemical sugars
56. Mathematician and pioneering computer scientist Lovelace, credited with writing the first ever computer program
57. Widespread ending of chemical sugars

DOWN
1. Schroedinger’s pet in a box
2. It comes in Pale and Brown varieties
3. Each
4. WALL-E’s love
5. Adjective that describes the set \( \mathbb{Q} \) vis-a-vis the set \( \mathbb{R} \), e.g.
6. Surgical tube
7. “It’s _______ heck in here!”
8. Saint Joan ______
9. Twosome
11. Appliance with an oil vat and basket
12. Unit of mass and gold purity
13. Premium cable channel
14. Not pro
15.溢价 with writing the first ever computer program
16. Premium cable channel
17. Premium cable channel
18. Premium cable channel
19. Premium cable channel
20. Premium cable channel
21. Premium cable channel
22. Premium cable channel
23. Premium cable channel
24. Premium cable channel
25. Premium cable channel
26. Premium cable channel
27. Premium cable channel
28. Premium cable channel
29. Premium cable channel
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63. Premium cable channel
64. Premium cable channel
65. Premium cable channel
66. Premium cable channel
Clues are at left, on page 360. The solution is on page 402.

Extra copies of the puzzle, in both .pdf and .puz (AcrossLite) formats, can be found at the MAGAZINE’s website, or (temporarily) at http://www.mathematicsmagazine.org.
A1046. Because \( \int_a^b f(x) \, dx = 0 \), it follows that

\[
\int_a^b x f(x) \, dx = \int_a^b \left( x - \frac{a + b}{2} \right) f(x) \, dx.
\]

By the Triangle Inequality for Integrals and the bound \(|f(x)| \leq M\),

\[
\left| \int_a^b x f(x) \, dx \right| = \left| \int_a^b \left( x - \frac{a + b}{2} \right) f(x) \, dx \right|
\]

\[
\leq \int_a^b \left| x - \frac{a + b}{2} \right| |f(x)| \, dx \leq M \int_a^b \left| x - \frac{a + b}{2} \right| \, dx
\]

\[
= 2M \int_a^{(a+b)/2} \left( \frac{a + b}{2} - x \right) \, dx = \frac{M(b-a)^2}{4}.
\]

Solution to puzzle on page 360

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APPED SHOD PFCS
ALEVE TOFUERAT
RENCE TAO LLYRA
SONAR SHEAR
LAURENTSCHWARTZ
OGLE AIM
ORCAMANDALLOSE
FIELDSMEDALISTS
PRACETALS CAT
AMI MAR
JEANPIERRESERRE
AMENSFoot
ORANGOBAOCHAU
UTILAHMEOUSERS
SEE SHISSLANKA
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