Section 13 Answers

Why Did the Backpacker Carry a Flashlight?

E. 5  D. 2ab  
O. x  E. a^2b  
A. 4x  H. 9a^3  
H. x^2  A. 3k^2  
T. 8x  I. a^2b^2  
S. 10x^2  N. 15ab^3  
O. 2t + 3  W. 8a + 3b  
T. 2t - 9  D. 3b - 10a  
E. 3t + 4  G. a^3b^3 + 7a^2b^4  
I. 6t - 11  N. 5a^2 - 15b^2  
H. 2t^2 + 9t - 5  L. 2a^4b^4 + 5a^2b^2 + 1  
L. 3t^2 + 20t - 1  T. 5a^2b - a^2b^2 - 2ab^3  

HE WANTED TO LIGHTEN HIS LOAD 13.1

Where Does the Smell of a Skunk Go?

1. (x + 2)(x + 3)  
2. (x + 1)(x + 4)  
3. (x + 3)(x + 5)  
4. (x + 2)(x + 5)  
5. (x + 1)(x + 8)  
6. (x - 1)(x - 7)  
7. (x - 2)(x - 6)  
8. (n + 4)(n + 5)  
9. (n - 2)(n - 9)  
10. (n - 4)(n - 11)  
11. (n + 3)(n + 8)  
12. (n + 2)(n + 16)  
13. (n - 3)(n - 25)  
14. (n - 5)(n - 9)  
15. (x + 2y)(x + 4y)  
16. (x + 3y)(x + 9y)  
17. (x - y)(x - 13y)  
18. (x - 5y)(x - 8y)  
19. (x + 4y)(x + 10y)  
20. (x + 2y)(x + 18y)  
21. (x - 10y)^2  

NO ONE NOSE 13.3

Why Is It Better to Be Married to a Successful Broadway Producer Than a Plumber?

E. (a - 1)(a + 7)  
F. (k + 2)(k - 9)  
B. (x - 2y)(x + 10y)  
A. (a - 2)(a + 5)  
U. (k - 2)(k + 15)  
L. (x + 3y)(x - 11y)  
L. (a + 1)(a - 6)  
A. (k + 3)(k - 8)  
H. (x - 5y)(x + 16y)  
U. (a + 3)(a - 5)  
E. (k - 1)(k + 35)  
A. (x + 3y)(x - 12y)  
S. (a - 2)(a + 11)  
S. (k + 4)(k - 7)  
S. (x - 4y)(x + 9y)  
O. (a - 2)(a + 6)  
L. (k - 8)(k + 9)  
U. (x + 2y)(x - 18y)  
H. (a + 2)(a - 25)  
T. (k + 5)(k - 13)  
F. (x + 6y)(x - 6y)  

A FULL HOUSE BEATS A FLUSH 13.4

Why Didn’t the Piano Work?

Set 1 a. x(x - 6)  
   b. 2x(x + 4)  
   c. 5x(9x - 4)  
   d. 3x(3x^2 + 10)  
   e. x^3(8x^2 - 15)  

Set 2 a. 4a(2a^2 + a + 3)  
   b. 7a^2(a^2 - 5a - 2)  
   c. a^4(6a^4 + 10a^2 - 3)  
   d. 12a^3(3 - 2a + 5a^2)  
   e. 15a(2a^5 - 5a^4 - 1)  

Set 3 a. m^2n(m + 9)  
   b. 5m^2n^2(2m - 5n)  
   c. 7mn^3(7m^4 + 4n)  
   d. 24n(3m^7 + 1)  
   e. 2m^3n^4(4 - 11m^2n^2)  

Set 4 a. 20(2x^2 - 5xy - 4y^2)  
   b. 3x^3y^2(4x^2 + 3x - 2)  
   c. 5xy(3x^2 - 7xy + 8y^2)  
   d. 9x^2(16x^6y^2 + 3x^2y + 1)  
   e. π(2x^2 - y^2)  

IT KNOWS ONLY HOW TO PLAY 13.2
What Happened to the Guy Who Lost the Pie-Eating Contest?
1. \((n + 3)(n + 4)\)  4. \((w - 2)(w + 15)\)  7. \((p - 2)(p + 7)\)  10. \((x + 2y)(x + 5y)\)
2. \((n - 2)(n - 7)\)  5. \((w + 5)(w - 6)\)  8. \((p - 1)(p - 20)\)  11. \((x - 4y)(x + 8y)\)
3. \((n - 2)(n + 6)\)  6. \((w + 1)(w + 18)\)  9. \((p + 2)(p - 10)\)  12. \((x - y)(x - 10y)\)
13. \((u - 7)(u + 10)\)  16. \((c + 4)(c + 12)\)  19. \((m + 5)(m + 20)\)  22. \((a - 3b)(a + 7b)\)
14. \((u + 2)(u - 35)\)  17. \((c - 6)(c + 8)\)  20. \((m + 5)(m - 20)\)  23. \((a + 8b)(a + 9b)\)
15. \((u + 1)(u + 13)\)  18. \((c - 3)(c - 16)\)  21. \((m - 5)(m + 20)\)  24. \((a + 2b)(a - 20b)\)

HE CAME IN SICKENED

How Do You Park a Computer?
1. \((x + 2)(2x + 3)\)  8. \((2a + 1)(3a + 4)\)
2. \((5x - 4)(x - 3)\)  9. \((3a + 1)(5a - 2)\)
3. \((3x + 4)(x - 2)\)  10. \((5a + 7)(a + 7)\)
4. \((6x + 11)(x + 1)\)  11. \((4a + 1)(a - 9)\)
5. \((7x - 5)(x + 4)\)  12. \((7a - 8)(a - 3)\)
6. \((2x - 3)(2x - 5)\)  13. \((2a + 3)(5a - 7)\)
7. \((4x - 1)(2x + 5)\)  14. \((3a - 2)(a + 15)\)
FIRST YOU BACK IT UP

Why Did Kevin Klutz Give Up Tap Dancing?
L. \((x + 4)^2\)  I. \((2x + 3)^2\)  T. \((2x + 3)(2x - 3)\)
I. \((n + 6)(n - 6)\)  E. \((n - 6)^2\)
T. \((n + 20)(n - 20)\)  K. \((n + 12)^2\)
N. \((2n + 5)(2n - 5)\)  O. \((2n + 5)^2\)
T. \((4a + 1)(4a - 1)\)  H. \((4a - 1)^2\)
A. \((3a + 8)(3a - 8)\)  E. \((3a + 8)^2\)
N. \((2 + 7a)(2 - 7a)\)  K. \((2 - 7a)^2\)
G. \((10x + y)(10x - y)\)  S. \((10x + y)^2\)
P. \((2x + 9y)(2x - 9y)\)  F. \((2x - 9y)^2\)
N. \((8x + 15y)(8x - 15y)\)  L. \((8x + 30y)^2\)
NOTE: Models for perfect square trinomials and differences of two squares appear on ANSWERS • 56.
HE KEPT FALLING INTO THE SINK

How Did the Geometry Teacher Feel About Octagons?
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<th>Column 3</th>
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</tr>
<tr>
<td>25 • T</td>
<td>19 • T</td>
<td>18 • H</td>
</tr>
</tbody>
</table>

IT WAS A LOVE EIGHT RELATIONSHIP

AN INTERESTING MULTIPLICATION:
\(111,111,111 \times 111,111,111 = 12,345,678,987,654,321\)

extra for teachers

Answers
Pages 13.5 – 13.9

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Where Did the Tree Invite All Its Friends on Friday Night?

1. \((n + 2)(n + 9)\)  
2. \((n - 9)^2\)  
3. \((n + 3)(n - 6)\)  
4. \((7g + 2)(7g - 2)\)  
5. \((7g - 2)^2\)  
6. \((7g - 4)(g + 1)\)  
7. \((9c + 1)(c - 1)\)  
8. \((c + 3)(c + 8)\)  
9. \((9c + 1)^2\)  
10. \((a - 3b)(a + 5b)\)  
11. \((5a + 8b)(a - 2b)\)  
12. \((5a + 4b)^2\)  
13. \((2t - 3)(5t + 1)\)  
14. \((t - 4)(10t - 3)\)  
15. \((10t + 3)(10t - 3)\)  
16. \((2w + 15)(w - 2)\)  
17. \((2w + 15)(2w - 15)\)  
18. \((2w - 15)^2\)  
19. \((1 + 3e^2)(1 - 3e^2)\)  
20. \((3e + 4)(e + 5)\)  
21. \((3e + 10)(e - 2)\)  
22. \((x + 12y)^2\)  
23. \((12x + y)(x - y)\)  
24. \((x + 12y)(x - 12y)\)

TO ITS LUMBER PARTY

Why Did the Boy Sheep Plunge Off a Cliff While Chasing the Girl Sheep?

Set 1
a. \((a + 4)(a + 5)\)  
b. \((a - 4)(a + 6)\)  
c. \((a + 8)(a - 8)\)  
d. \((a - 1)(5a + 4)\)  
e. \((5a + 2)(5a + 2)\)

Set 2
a. \((u - 3)(2u - 5)\)  
b. \((7 + 4u)(7 - 4u)\)  
c. \((u - 7)(2u + 5)\)  
d. \((u - 2)(7u + 2)\)  
e. \((7u - 4)(7u - 4)\)

Set 3
a. \((k + 3)(8k + 1)\)  
b. \((2k + 3)(4k - 1)\)  
c. \((k - 1)(4k - 11)\)  
d. \((2k + 11)(2k - 11)\)  
e. \((k - 2)(11k + 8)\)

SET 4
a. \((9x^2 + y)(9x^2 - y)\)  
b. \((x - 5y)(3x - 8y)\)  
c. \((9x + y)(9x + y)\)  
d. \((3x - y)(3x + 8y)\)  
e. \((x + 4y)(9x + 2y)\)

He didn't see the ewe turn
What Problem Did Dr. Cranium Fogg Have After Spending 10 Million Dollars to Build a Wooden Car With a Wooden Engine and Wooden Wheels?

1. \((3k + 5)(k + 3)\)
2. \(5k(3k + 1)(k - 8)\)
3. \(2k(2k + 9)(2k - 9)\)
4. \((k - 2)(k - 9)\)
5. \((k^2 - 3)(k + 10)\)

6. \((4c + 1)(2c + 3)\)
7. \(4c(2c + 1)(c - 5)\)
8. \(5(3c - 10)(c - 1)\)
9. \((c^2 + 1)(c + 3)(c - 3)\)
10. \(c^2(5c + 1)^2\)

11. \(3x(4x - 1)(3x + 1)\)
12. \(8(5x - 11)(x + 1)\)
13. \(y^2(3x + 10)^2\)
14. \(2x^2(x + 4)(x + 5)\)
15. \((x + 1)(x - 1)(x + 4)(x - 4)\)

What Is The Title of This Picture?

1. \((n^2 + 3)(n + 4)\)
2. \((n^2 + 8)(n - 3)\)
3. \((2n^2 + 3)(5n + 2)\)
4. \((7n^2 + 4)(2n - 11)\)
5. \((n^2 - 6)(n + 1)\)
6. \((4n^2 - 3)(7n + 2)\)
7. \((9n^2 + 1)(10n - 3)\)
8. \((x + 3)(x - 3)(x + 4)\)
9. \((x + 10)(x + 4)(x - 4)\)
10. \((2x + y)(5x + 8)\)
11. \((3x^2 + 2y)(4x - 7)\)
12. \((x^2 + y^2)(x + y)\)
13. \((2x^2 - 15)(x + 4)\)
14. \((2x + 1)(2x - 1)(5x + 12)\)

FIRE POLE USED FOR FALSE ALARMS

Did You Hear About ...

The butcher who backed into his meat grinder and got a little behind in his work?

1. \((x^2 + 2)(x - 5)\)
2. \((a^2 + 8)(3a + 1)\)
3. \((x - 5)(x^2 + 4)\)
4. \((2a - 9)(a^2 - 15)\)
5. \((x^2 + 7)(x - 4)\)
6. \((3a^2 - 5)(6a + 11)\)
7. \((a + 8)(x^2 + 1)\)
8. \((a^2 - 14)(3a - 10)\)
9. \((w^2 + 1)(5w - 2)\)
10. \((7t - 1)(t^2 + 8)\)
11. \((6w^2 + 1)(13 + 6w)\)
12. \((3t + 2)(t + 3)(t - 3)\)
13. \((10 - 3t^2)(8w + 5)\)
14. \((t^3 + 1)(2t + 5)(2t - 5)\)
15. \((7w + 20)(t + w)(t - w)\)
16. \((t + 1)(t - 1)(8 + t)(8 - t)\)

Extra for Teachers

Mahatma Gandhi, we are told, walked barefoot most of the time, which produced an impressive set of calluses on his feet. He also ate very little, which made him rather frail and with his odd diet, he suffered from bad breath. This made him a...

Super Callused Fragile Mystic Hexed By Halitosis.

Answers
Pages 13.13 – 13.15

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Answers • 13
What Candy Do Kids Eat On the Playground

1. \( (2a - 1), (a + 5) \)
2. \( 5a, (a + 2), (a + 7) \)
3. \( 2a(a - 3)(a - 5) \)
4. \( a^2(a - 3)(a + 10) \)
5. \( (a^2 + 4)(a + 7) \)
6. \( 3a(2a + 5)(2a - 5) \)
7. \( (5a^2 + 8)(2a - 9) \)
8. \( 10(7x + 6)(x - 1) \)
9. \( (x^2 - 5)(3x + 8) \)
10. \( 2y^2(x - 9)^2 \)
11. \( (x + 2)(x - 2)(x - 15) \)
12. \( xy(2y + 3)(y + 8) \)
13. \( 5y(3x + 10)^2 \)
14. \( (4x + 1)(4x - 1)(2x + 5) \)

RECESS PIECES

What Happened to the Outlaw Who Wore a Paper Shirt, Paper Vest, and Paper Pants?

1. \( (a + 9b)(a - 2b) \)
2. \( 5(a + 5b)(a + 6b) \)
3. \( 2a(2a + 7b)(2a - 7b) \)
4. \( ab(3a - 2b)(a - 4b) \)
5. \( 7(5a - b)(2a + b) \)
6. \( a^2(9a + 2b)(a + b) \)
7. \( 3y(x - 4y)(x - 6y) \)
8. \( y^2(3x + 4y)^2 \)
9. \( 5x^2(2x + 5y)(x - 3y) \)
10. \( x^2y^2(x + 2y)(x + 11y) \)
11. \( (7x^2 + y^2)(x + y)(x - y) \)
12. \( (x + y)^2(x - y)^2 \)

HE WAS ARRESTED FOR RUSTLING

DID YOU HEAR ABOUT THE . . .
MONSTER WHO ATE LIGHTBULBS BECAUSE HE THOUGHT THEY HAVE LESS CALORIES THAN REGULAR BULBS?

1. \( (3x - 10)(x - 2) \)
2. \( xy(3x + 8y)(3x - 8y) \)
3. \( 5(x + 2y)(x - 15y) \)
4. \( (2y^2 + 9)(y - 4) \)
5. \( x^2(2x - 3)(x + 5) \)
6. \( 3y(7x - 10y)(x + y) \)
7. \( 4(2x - 5y)^2 \)
8. \( 9cd^3(2c^2d - 7cd^2 + 1) \)
9. \( 2cd(c^3d + 15)(c^3d - 15) \)
10. \( (c + d)(c - d)(5c + 2) \)
11. \( c^2d^2(6c + 11)(c - 1) \)
12. \( 3c^2(2c + 3d)(c + 6d) \)
13. \( (c + 1)(c - 1)(c + 7)(c - 7) \)
14. \( (d + 4)^3 \)

TEACHERS,
Did you hear about the disruptive cartoon character who was sent home from school?
They call it suspended animation.

Do you have students who talk too much? Good news! There's a new self-help group for compulsive talkers:
ON AND ON ANON.

If your students ever threaten to "mutiny", you might suggest they practice just the "mute" part of that.

And, by the way, do you think it's really appropriate to put one of those "SLOW CHILDREN" signs up near a school?

Answers • 14