

2.28.20

At The Bell: **PSSA:** Factor. $x^2 - 16x + 64$

$$x^2 - 16x + 64 = (x - 8)^2$$

Solve.

Check.

1 st	3 rd	*	+
x	-8	-8x	-16x
x	-8	-8x	

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1. W
2. H
3. E
4. N
5. H
6. E
7. S
8. I
9. T
10. S
11. O
12. N
13. T
14. H
15. E
16. T
17. H
18. R
19. O
20. W
21. N

WHEN HE SITS ON
THE THROWN

When he sits on the
thrown (throne)

$$(a+3b)(a+2b)$$
$$(a-7b)(a+3b)$$

Factoring

Number of Terms

2 Terms

$$x^2 - 25$$

3 terms

$$x^2 + 13x + 30$$

4 terms

$$5x^3 - 6x^2 + 40x - 48$$

How to Factor

Difference of 2 Squares

Make a Table

Grouping

Factoring (Difference of 2 Squares)

Factor completely. Check your solution.

$$1. 16n^2 - 25 = (4n + 5)(4n - 5)$$

$\sqrt{16n^2} = 4n$ $\sqrt{25} = 5$

$$\begin{array}{r} 16n^2 - \cancel{20n} \\ + \cancel{20n} - 25 \\ \hline 16n^2 - 25 \end{array}$$

$$3. 25x^2 - 4 = (5x + 2)(5x - 2)$$

$$5. 4n^2 - 9 = (2n + 3)(2n - 3)$$

$$7. 4x^2 - 100$$

$$4(x^2 - 25)$$

$$4(x + 5)(x - 5)$$

Factoring (Grouping)

Factor completely. Check your solution.

$$\begin{aligned} 1. & (8n^3 + 48n^2) + (5n + 30) \\ & 8n^2(n+6) + 5(n+6) \\ & (n+6)(8n^2 + 5) \end{aligned}$$

$$\begin{aligned} & (8n^2 + 5)(n + 6) \\ & 8n^3 + 48n^2 + 5n + 30 \end{aligned}$$

$$\begin{aligned} 3. & (28a^3 - 32a^2) - (21a + 24) \\ & 4a^2(7a-8) - 3(7a-8) \\ & (7a-8)(4a^2 - 3) \end{aligned}$$

$$\begin{aligned} 5. & (30a^3 - 6a^2) - (35a + 7) \\ & 6a^2(5a-1) - 7(5a-1) \\ & (5a-1)(6a^2 - 7) \end{aligned}$$

Assignment:

Why Didn't Klutz do ANy
HW on Saturday?
&
How Did Snidely
Spellbinder Write a Four-
Letter Word that Begins
and Ends with "E"?

Why Didn't Klutz Do Any Homework on Saturday?



Either multiply or factor, as directed, and find your answer in the adjacent answer column. Write the letter of that exercise in the box that contains the number of the answer.

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ALGEBRA WITH PIZZAZZ!
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Multiply:
(I) $(a + 5)(a - 5)$
(D) $(2 + 3a)(2 - 3a)$
(E) $(7a - 1)(7a + 1)$
(N) $(a^2 - 6)(a^2 + 6)$
(A) $(4a + b)(4a - b)$
(O) $(2a^2 - 5b)(2a^2 + 5b)$

Factor:
(S) $x^2 - y^2$
(I) $4x^2 - 49y^2$
(W) $81x^2 - 100y^2$
(E) $36x^2 - 121y^2$
(O) $9x^2 - 64y^2$
(N) $x^4 - 400$

(4) $16a^2 - b^2$
(13) $49a^2 - 1$
(6) $a^2 - 25$
(17) $4a^4 - 25b^2$
(15) $4 - 9a^2$
(12) $4a^4 - 36$
(24) $a^4 - 36$

(3) $(9x + 10y)(9x - 10y)$
(5) $(x + y)(x - y)$
(7) $(x^2 + 20)(x^2 - 20)$
(11) $(6x + 11y)(6x - 11y)$
(16) $(3x + 7y)(3x - 7y)$
(22) $(2x + 7y)(2x - 7y)$
(23) $(3x + 8y)(3x - 8y)$

Factor:
(E) $n^2 - 49$
(A) $n^2 - 1$
(N) $81 - n^2$
(H) $4n^2 - 9$
(I) $49n^2 - 16$
(E) $144 - 25n^2$

Factor:
(T) $a^6 - b^4$
(C) $25a^8 - 9b^4$
(W) $a^2b^2 - 36$
(D) $16 - a^4b^6$
(K) $a^2b^4 - c^8$
(N) $4a^{16} - 225$

(1) $(2n + 3)(2n - 3)$
(10) $(12 + 5n)(12 - 5n)$
(8) $(n + 1)(n - 1)$
(5) $(7n + 3)(7n - 3)$
(2) $(n + 7)(n - 7)$
(18) $(9 + n)(9 - n)$
(20) $(7n + 4)(7n - 4)$

(19) $(4 + a^2b^3)(4 - a^2b^3)$
(14) $(2a^8 + 15)(2a^8 - 15)$
(21) $(a^3 + b^2)(a^3 - b^2)$
(12) $(ab^2 + c^4)(ab^2 - c^4)$
(9) $(ab + 6)(ab - 6)$
(16) $(5a^4 + 3b^2)(5a^4 - 3b^2)$
(10) $(4 + ab^4)(4 - ab^4)$

1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
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OBJECTIVE 3-h: To simplify products of the form $(a + b)(a - b)$; to factor differences of squares.

How Did Snidely Spellbinder Write a Four-Letter Word That Begins and Ends With "E"?



Write each expression below in factored form. Find your answer in the set of answers under the exercise and cross out the box above it. When you finish, the answer to the title question will remain.

- 1 $x^2 + 3x + xk + 3k$

2 $a^2 - 2a + ad - 2d$

3 $uv + 5u + v^2 + 5v$

4 $x^2 - xk + 4x - 4k$

5 $ad + 3a - d^2 - 3d$

6 $y^3 + y^2 + 2y + 2$
- 7 $m^3 + m^2n + mn^2 + n^3$

8 $u^3 - u^2v + uv^2 - v^3$

9 $t^2 + 2t + 3kt + 6k$

10 $2ab + 14a + b + 7$

11 $m^2 + mn - 3m - 3n$

12 $5x^2y - x^2 + 5y - 1$

B	(a - d)(d + 3)	W	(u + 2)(v + 5)	E	(x + 4)(x - k)	A	(a + d)(a - 2)	I	(2y^2 + 1)(v + 1)	N	(x + k)(x + 3)	T	(a - d)(d - 2)	R	(v^2 + 2)(v + 1)	H	(x + k)(4x + 3)	4	(u + v)(v + 5)
L	(u^2 + v^2)(u - v)	G	(x^2 + 1)(5y - 1)	E	(7a + 2)(b + 7)	T	(t + 3k)(t + 2)	I	(m^2 + n^2)(m + n)	A	(3t - k)(t + 2)	S	(m^2 - 2)(m + n)	P	(2a + 1)(b + 7)	E	(2x + 5)(5y - 1)	N	(m - 3)(m + n)

Algebra 1 (Swanick)

Name _____

8-7 Difference of 2 Squares HW

Date _____ Period _____

Factor each completely. Check your solution.

1) $4b^2 - 1$

2) $9n^2 - 4$

3) $9r^2 - 1$

4) $9x^2 - 25$

Look for a GCF first. Factor each completely. Check your solution.

5) $100x^2 - 36$

6) $3x^2 - 3$

Factor each completely.

7) $p^2 - 7p$

8) $x^2 - 10x + 24$

9) $6x^2 - 24x - 126$

10) $5n^2 + 10n - 15$

Algebra 1 (Swanick)

Name _____

8-8 Factoring by Grouping HW

Date _____ Period _____

Factor each completely.

1) $12k^3 - 15k^2 + 28k - 35$

2) $21p^3 - 14p^2 - 15p + 10$

3) $18x^3 - 15x^2 - 48x + 40$

4) $32n^3 - 24n^2 - 12n + 9$

5) $3m^3 - 2m^2 - 21m + 14$

6) $5r^3 - 6r^2 + 40r - 48$

Factor each completely. Check your solutions!

7) $a^2 + 2a - 24$

8) $4n^2 + 20n + 16$

9) $n^2 - 25$

10) $9b^2 - 1$