

When Is a Wrestler "King of the Ring"?

Factor each trinomial below. Find your answer and notice the letter next to it. Write this letter in the box containing the number of that exercise. Keep working and you will get the gripping answer to the title question.

- ① $n^2 + 6n + 5$
- ② $n^2 + 7n + 10$
- ③ $n^2 - 7n + 12$
- ④ $n^2 - 11n + 28$
- ⑤ $n^2 + 2n - 15$
- ⑥ $n^2 - 5n - 24$
- ⑦ $n^2 + n - 56$

Answers:

- Ⓕ $(n + 2)(n + 6)$
- Ⓗ $(n + 5)(n - 3)$
- Ⓦ $(n + 5)(n + 1)$
- Ⓔ $(n - 3)(n - 4)$
- Ⓑ $(n - 1)(n + 15)$
- Ⓢ $(n + 8)(n - 7)$
- Ⓗ $(n + 2)(n + 5)$
- Ⓔ $(n - 8)(n + 3)$
- Ⓡ $(n - 12)(n - 2)$
- Ⓝ $(n - 7)(n - 4)$

- ⑧ $t^2 + 10t + 16$
- ⑨ $t^2 - 15t + 50$
- ⑩ $t^2 + 8t - 9$
- ⑪ $t^2 - 7t - 30$
- ⑫ $t^2 - t - 30$
- ⑬ $t^2 + 14t + 48$
- ⑭ $t^2 + 8t - 48$

Answers:

- Ⓝ $(t - 6)(t + 5)$
- Ⓥ $(t - 25)(t + 2)$
- Ⓣ $(t - 5)(t - 10)$
- Ⓣ $(t + 6)(t + 8)$
- Ⓞ $(t - 10)(t + 3)$
- Ⓑ $(t + 15)(t - 2)$
- Ⓘ $(t + 8)(t + 2)$
- Ⓗ $(t - 4)(t + 12)$
- Ⓢ $(t + 9)(t - 1)$
- Ⓐ $(t - 24)(t + 2)$

- ⑮ $a^2 + 5ab + 6b^2$
- ⑯ $a^2 - 4ab - 21b^2$
- ⑰ $a^2 + 6ab - 7b^2$
- ⑱ $a^2 - 14ab - 32b^2$
- ⑲ $a^2 - 29ab + 100b^2$
- ⑳ $a^2 + 7ab - 18b^2$
- ㉑ $a^2 + 2ab + b^2$

Answers:

- Ⓚ $(a - 8b)(a + 4b)$
- Ⓗ $(a + 7b)(a - b)$
- Ⓐ $(a - 20b)(a + 5b)$
- Ⓔ $(a + 2b)(a + 3b)$
- Ⓦ $(a + 9b)(a - 2b)$
- Ⓣ $(a - 7b)(a + 3b)$
- Ⓞ $(a - 25b)(a - 4b)$
- Ⓢ $(a + 6b)(a + 3b)$
- Ⓝ $(a + b)(a + b)$
- Ⓡ $(a - 16b)(a + 2b)$

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

Type equation here. Name: _____ Date: _____

Factoring, Functions, and Formulas Review

UNIT QUESTION: In what ways can algebraic methods be used in problems solving?

Given the functions $f(x) = x + 4$ $g(x) = 3x^3 + 1$ $h(x) = -3x^2 - x + 9$

1. Find $f(x) + g(x)$

$$(x+4) + (3x^3+1)$$

$$\underline{x+4 + 3x^3+1}$$

$$\boxed{3x^3 + x + 5}$$

2. Find $h(x) - f(x)$

3. Find $h(1)$

$$h(1) = -3(1)^2 - (1) + 9$$

$$= -3 - 1 + 9$$

4. Find $f(x) \cdot g(x)$

$$\boxed{h(1) = 5}$$

GCF factor the polynomial:

5. $\frac{12x^3}{2x} + \frac{18x}{2x} - \frac{32x^4}{2x}$

12
1 12
2 6
3 4
GCF = 2x

$$+ 2x(6x^2 + 9 - 16x^3)$$

$$\boxed{-2x(16x^3 - 6x^2 - 9)}$$

6. $15x^2 + 40x$

7. $\frac{40}{2} + \frac{18x}{2} + \frac{2x^2}{2}$

GCF = 2

$$2(20 + 9x + x^2)$$

$$\boxed{2(x^2 + 9x + 20)}$$

Multiple Choice:

8. Which value of "b" would make $x^2 + bx + 32$ **not** factorable?

A. -12

C. 18

B. 33

D. 16

D 9. Which value of "b" would make $x^2 + bx + 28$ factorable?

A. -12

C. 18

B. 33

D. 16

	Sum
1 · 28 ⇒	29
2 · 14 ⇒	<u>16</u>
4 · 7 ⇒	11

10. The formula for the perimeter P of a rectangle with length l and width w is $P = 2l + 2w$. Which of the following is a formula for the length of a rectangle in terms of the perimeter and width?

a. $l = \frac{P-w}{2}$

b. $l = \frac{P+w}{2}$

c. $l = \frac{P-2w}{2}$

d. $l = \frac{P+2w}{2}$