

Name:

SHAPING UP

What's a polygon with 5 sides? What's a quadrilateral with sides of equal length? What's a quadrilateral with opposite sides that are parallel and of equal length?

Simplify each problem. Write the exercise number in front of the corresponding answer listed in the grid. To spell out the answers at the bottom of the page, refer to the grid and write the code letter that corresponds to the exercise number given.



Tip: Rearrange the variables at the final stages of simplification (no parenthesis) so that like-variables are next to each other. For example, $x^2y^4x^3yz \rightarrow x^2x^3y^4yz \rightarrow x^5y^5z$. Note that exponents of different variables cannot be added together.

1. $(x^2 \cdot x^3)^3$

10. $(-4x^2)^3$

2. $(2x)^2$

11. $(-x^3)(4x^3)^2$

3. $(-8x^3)^2 \cdot x^3$

12. $(-5xy)^2(x^2y^2)$

4. $(-xy)^2(x^2y^4)$

13. $(2x^4)^3$

5. $(2x)^3 \cdot (2x^3)^3$

14. $(-3xy^3)^2(-2x)^3$

6. $(-2x)(3xy)(4y)$

15. $(5x)^2 \cdot x^3$

7. $(3x)(3x^2)$

16. $(3x^2yz^2)^3(xyz)$

8. $(x^2y)(2xy^2)(4xy)$

17. $(-x^4)(9x^3)^2$

9. $(xy^2)(x^2y)^2$

18. $(-x^3yz)^4(-3z^5)^3$

Code Letter	Exercise #	Answer
A		$-64x^6$
B		$-27x^{12}y^4z^{19}$
C		$64x^9$
D		x^5y^4
E		$-72x^5y^6$
G		$64x^{12}$
H		$-16x^9$
I		$-24x^2y^2$
L		x^{15}
M		$27x^7y^4z^7$
N		x^4y^6
O		$8x^4y^4$
P		$8x^{12}$
Q		$-81x^{10}$
R		$4x^2$
S		$9x^3$
T		$25x^4y^4$
U		$25x^5$

Answer:

13	14	4	12	10	5	8	4	2	11	8	16	18	15	7
13	10	2	10	1	1	14	1	8	5	2	10	16		