

1.2 Evaluate Expressions

TEKS a.2, a.5, a.6, 2A.2.A

QUESTION How can you use a calculator to evaluate expressions?

You can use a scientific calculator or a graphing calculator to evaluate expressions. Keystrokes for evaluating several expressions are shown below.

Note that to enter a negative number, you use the \pm key on a scientific calculator or the $(-)$ key (not the $-$ key) on a graphing calculator.

EXAMPLE Evaluate expressions

EXPRESSION	CALCULATOR	KEYSTROKES	RESULT
a. $-4^2 + 6$	Scientific	4 x^2 \pm + 6 =	-10
$-4^2 + 6$	Graphing	$(-)$ 4 x^2 + 6 ENTER	-10
b. $(-4)^2 + 6$	Scientific	4 \pm x^2 + 6 =	22
$(-4)^2 + 6$	Graphing	($(-)$ 4) x^2 + 6 ENTER	22
c. $(39 \div 3)^3$	Scientific	(39 \div 3) y^x 3 =	2197
$(39 \div 3)^3$	Graphing	(39 \div 3) ^ 3 ENTER	2197
d. $\frac{64 - 5 \cdot 8}{4}$	Scientific	(64 - 5 \times 8) \div 4 =	6
$\frac{64 - 5 \cdot 8}{4}$	Graphing	(64 - 5 \times 8) \div 4 ENTER	6

PRACTICE

Use a calculator to evaluate the expression.

1. $50.2 - 15 \div 3$ 2. $-11(20) - 66$ 3. $21(-8) + 51$

4. $(-4)^4$ 5. $7(44.5 - 8^2)$ 6. $\frac{9.2 - 15.9}{-19 + 14}$

Use a calculator to evaluate the expression when $x = -3$, $y = 5$, and $z = -6$.

7. $7z + y$ 8. x^6 9. $6y - z^3$

10. $\frac{10x}{2z - 3}$ 11. $(x + y)^2 + 3z$ 12. $(-4x + 9) \div (y + 2)$

13. **ERROR ANALYSIS** A student evaluated the expression $7 + (-4)^3$ on a graphing calculator by pressing 7 $+$ ($-$ 4) $^$ 3 ENTER. The calculator displayed an error message. Describe and correct the error.