Quiz 2.3 Notes

2.7 order of operation

P parentheses
E exponents
MD multiply/divide (L→R)
AS add/subtract (L→R)

examples

1. $3^2 - (9 - 4 \cdot 2)^2 + 4 - 9$
2. $(4 + 5 \cdot 2)^2 + 4 - 10 \cdot 5$

Writing expressions

ex1. $\frac{3(x-2)-4}{7}$

"Pick a #, subtract 2, multiply by 3, subtract 4, divide by 7"

ex2. Pick a #, add 9, multiply by -4, divide by 3, subtract 5

→ $\frac{-4(x+9)}{3} - 5$

2.8 undo charts & solving for x

descrip.	undo.	result
pick x	=	41
·2	÷2	82
+5	−5	87
÷3	·3	29
−9	+9	20

result ← ans.

ex. a) pick a number, multiply by 2, add 5, divide by 3, subtract 9. The result is 20. Use an undo chart to find the #.

check: $41 \cdot 2 = 82$
$82 + 5 = 87$
$87 \div 3 = 29$
$29 - 9 = 20$ ✓

b) write an expression:
$\frac{2x+5}{3} - 9$

write an equation:
$\frac{2x+5}{3} - 9 = 20$

examples

3. $\frac{2(x+3)}{5} - 9 = 30$ make an undo chart to find x

4. pick a number, add 7, multiply by 3, divide by 5, minus 2. Write an expression of these operations.

Answers

1. $3^2-(9-4\cdot2)^2+4-9$
$3^2-(9-8)^2+4-9$
$3^2-(1)^2+4-9$
$3^2-1+4-9$
$9-1+4-9$
$8+4-9$
$12-9$
$\boxed{3}$

2. $(4+5\cdot2)^2+4-10\cdot5$
$(4+10)^2+4-10\cdot5$
$(14)^2+4-10\cdot5$
$196+4-10\cdot5$
$196+4-50$
$200-50$
$\boxed{150}$

3.

	descrip. undo	result
pick x		94.5
+3	−3	97.5
·2	÷2	195
÷5	·5	39
−9	+9	30

$x=94.5$

4. $\frac{3(x+7)}{5}-2$