

Math 7H - Unit 2a

Day 7 - Evaluating Linear Expressions

Lesson Objectives:

- I can substitute different values to evaluate linear expressions.

The substitution property of equality says, if $a = b$, then b may be substituted for a in any expression containing a .

To evaluate an algebraic expression substitute a number for each variable in the algebraic expression. Then use the order of operations to find the value of the numerical expression.

Evaluate $3x + 5$ when $x = 6$

$$3x + 5 = 3(6) + 5 = 18 + 5 = 23$$

Evaluate each expression if $d = 8$, $e = 3$, $f = 4$, and $g = -1$.

1. $2(d + 9)$
 $2(8 + 9)$
 $2(17)$
 34

2. $4f + d$
 $4(4) + 8$
 $16 + 8$
 24

3. $e^2 + 7$
 $3^2 + 7$
 $9 + 7$
 16

4. $\frac{d}{4}$
 $\frac{8}{4} = 2$

5. $\frac{2g}{2}$
 $\frac{2(-1)}{2} = \frac{-2}{2} = -1$

6. $\frac{5d - 25}{5}$
 $\frac{5(8) - 25}{5}$
 $\frac{40 - 25}{5} = \frac{15}{5} = 3$

Evaluate each expression if $x = 3.2$, $y = 6.1$, and $z = 0.2$.

7. $x + y + z$
 $3.2 + 6.1 + 0.2$
 9.5

8. $14.6 - (x + y + z)$
 $14.6 - (3.2 + 6.1 + 0.2)$
 $14.6 - 9.5 = 5.1$

9. $xz + y^2$
 $(3.2)(0.2) + (6.1)^2$
 $0.64 + 37.21$
 37.85

Evaluate each expression if $m = \frac{1}{2}$, $n = -\frac{5}{6}$, and $p = \frac{3}{4}$.

10. $3m + 4p$
 $3(\frac{1}{2}) + 4(\frac{3}{4})$
 $2 \cdot \frac{3}{2} + 12 \cdot \frac{1}{4}$
 $\frac{6}{4} + \frac{12}{4} = \frac{18}{4} = \frac{9}{2} = 4\frac{1}{2}$

11. $n^2 + 5$
 $(-\frac{5}{6})^2 + 5$
 $\frac{25}{36} + 5 = 5\frac{25}{36}$

12. $6p^3$
 $6(\frac{3}{4})^3$
 $\frac{6}{1}(\frac{27}{64}) = \frac{162}{64}$
 $= \frac{81}{32}$

Homework

Evaluate Linear Expressions WKS

* Individual Think Time *



What to do if you get stuck...

- Reread the problem. Did you write it down correctly?
- Reread your notes. Is there a problem similar that we did together in class?
- Find a problem similar in your book. Try this one to see if it helps.
- Skip the problem until the end of Individual Think Time. Then ask an "educated" question of a neighbor or Mrs. Call.

Today we're working by...

