## Lesson 1.3 Warm Up (Clickers)

1. Which property is being illustrated below?

$$
(3+f)+9=3+(f+9)
$$

2. What number system does the following belong to (name all that apply--rational, irrational, whole, natural integer)?
a. 1.345
b. -3
c. $\sqrt{ } 9$

## Lesson 1.3 Algebraic Expressions

## Essential Understanding: You can represent some

 mathematical phrases and real-world quantities using algebraic expressions.Ex. Which algebraic expression models the word phrase seven fewer than a number $t$ ?
a. $\dagger+7$
b. $-7 \dagger$
c. $\dagger-7$
d. $7-\dagger$
3. Solve the equation:
$3 x-9=12 x+4$

1 Which algebraic expression models the word phrase two times the sum of $a$ and $b$ ?
$A a+b$
B $2(a+b)$
C $2 a+b$

D $a+2 b$

Ex. You start with $\$ 20$ and save $\$ 6$ each week. Write an algebraic expression that models the total amount you save.

2 You had \$150, but you are spending $\$ 2$ each day. What algebraic expression models this situation?

To evaluate an algebraic expression, substitute a number for each variable in the expression. Then simplify using the order of operations.

Ex. Evaluate $7(a+4)+3 b-8$ for $a=-4$ and $b=5$

3 Evaluate for $x=1$ and $y=2$ (put your answer in as a decimal)
$\frac{x}{2}+y^{2}$

An expression that is a number, a variable, or the product of a number and one or more variables is a term. A coefficient is the numerical factor of a term. A constant term is a term with no variables.

Like terms have the same variables raised to the same powers. You can simplify an algebraic expression that has like terms.
like terms like terms
$3 x^{2}+5 x^{2}+9 y^{3} z+2 y z-4 y^{3} z$

Ex. Simplify
a. $7 x^{2}+3 y^{2}+2 y^{2}-4 x^{2}$
b. $-(3 k+m)+2(k-4 m)$
b. $-(3 k+m)+2(k-1 m)$

4 Simplify: $(8 a+3 b)+10(2 a-5 b)$

7 Write an algebraic expression that models: The piggy bank contained $\$ 25$ and $\$ 1.50$ is added each day.

