1.6 Equations and Mental Math

What is an Equation?

Two expressions that
have the same value
"They are equal"

$(=)$

$5 + 7 = 12$

$x + 3 = 5$

There is now a <u>solution</u>
value that makes the
equation "true"

$x = 2$

Solve $\quad 7x = 42$

$7 \cdot 6 = 42$

$42 = 42$

$x = 6$

Mental Math

Easier problems that
we should be able to
do in our head

$x + 3 = 5 \qquad 8y = 56$

$\dfrac{42}{n} = 7 \qquad \dfrac{n}{10} = 12$

Properties

Identity property of addition

$n + 0 = n$

Identity property of multiplication

$n \cdot 1 = n$

Multiplication property of 0

$n \cdot 0 = 0$

$2x = 10 \ , \ 7 \qquad 3y - 2 = 10, 7$

$2 \cdot 5 = 10 \qquad\qquad 3 \cdot 4 - 2 = 10$

$x = 5 \qquad\qquad\quad y = 4$

No

P 36 – 37

4 – 28 even, 36 – 40 even, 46, 48

$8 \ddot{\smile} = 24$

$\ddot{\smile} = 3$

$8x = 24$