

Multiplication Strategies

(~~x~~0) Zero Facts

The product of any number and 0 is 0.

$$7 \times 0 = 0$$

$$0 \times 4 = 0$$

(x1) Ones Facts

The product of any number multiplied by 1 is that number.

$$6 \times 1 = 6$$

$$1 \times 2 = 2$$

(x2) Doubles

To multiply by 2,
double the other
number

$$7 \times 2 = 14$$

$$(7 + 7 = 14)$$

$$2 \times 3 = 6$$

$$(3 + 3 = 6)$$

(x3) Doubles +1 Set

To multiply by 3,
double the number and
add that number one
more time.

$$3 \times 4 = 2 \times 4 + 4 = 12$$

$$3 \times 7 = 2 \times 7 + 7 = 21$$

(**x4**) Double-Double Facts

To multiply by 4, **double**
it and then **double the**
result

$$4 \times 7 = (2 \times 7) \times 2 = 14 \times 2 = 28$$

$$4 \times 6 = (2 \times 6) \times 2 = 12 \times 2 = 24$$

(x5) Half-Ten Facts

To multiply by 5, multiply the number by 10 and then divide the result in half. Or, divide the number in half and X 10.

$$5 \times 7 = (10 \times 7) \div 2 = 70 \div 2 = 35$$

or

$$5 \times 7 = 10 \times (7 \div 2) = 10 \times 3.5 = 35$$

(x6) Half-Tens Plus One

Set Facts

To multiply by 6, use the strategy to x5 and add the number to the result.

$$6 \times 7 = (10 \times 7) \div 2 + 7 = 35 + 7 = 42$$

$$6 \times 9 = (10 \times 9) \div 2 + 9 = 45 + 9 = 54$$

x8 Double-Double-Double

To multiply by 8, double it,
double the result and then
double the result one last
time.

$$8 \times 5 = ((2 \times 5) \times 2) \times 2 = ((10 \times 2) \times 2) = 20 \times 2 = 40$$

(x9) Tens Minus One Set Facts

To multiply by 9, multiply it first by x10 and then subtract the number from the result.

$$9 \times 7 = 10 \times 7 - 7 = 70 - 7 = 63$$

$$9 \times 9 = 10 \times 9 - 9 = 90 - 9 = 81$$

(x10) Ten Facts

To multiply by 10,
Count groups of ten

$$4 \times 10 = 40$$

"10, 20, 30, 40"

(x11) Decade +1Set

To multiply by 11, multiply
by 10 and add 1 set

$$12 \times 11 = 12 \times 10 = 120$$

$$\text{then } 120 + 12 = 132$$

$$12 \times 11 = 132$$

(x12) Decade +2 Sets

To multiply by 12, multiply
by 10 then add 2 sets

$$9 \times 10 = 90 \quad \text{then} \quad 90 + 9 = 99$$

$$\text{last } 99 + 9 = 108$$

$$9 \times 12 = 108$$