

To use doubling to help multiply

Steps to Success:

- 1) Partition a number.
- 2) Double each part.
- 3) Add parts together to finish.

Vocabulary

double

half

partition

Mental:

Call out a number, then double it.

Call out a number, then half it.

What is an even number?

Are all doubles even?

Are all halves even?

$\times 2$

How can we double 28?

- 1) Partition number.
- 2) Double both numbers.
- 3) Add them together.

For this, we could also pretend it is 30, double 30 then -2 -2.

$$\begin{aligned}\text{Double } 28 &= (30 \times 2) - 2 - 2 \\ &= 60 - 2 - 2 \\ &= 56\end{aligned}$$

x4

$$16 \times 4$$

How can we use doubling here?

Double, then double again!

What about 13×20 ?

Lets do 13×10 , then double it!

$$13 \times 10 = 130$$

$$\text{double } 130 = 260$$

x8

How can we do 24×8 ?

We can double, double then double again.

$$24 \times 2 = 48$$

$$48 \times 2 = 96$$

$$96 \times 2 = 192$$

To use doubling help multiply

try these questions, use doubling to help:

1) 12×2

2) 12×4

3) 12×8

4) 15×2

5) 15×4

6) 15×8

7) 20×2

8) 20×4

9) 20×8

10) 16×2

11) 16×4

12) 16×8

1) 20×2

2) 20×4

3) 20×8

4) 24×2

5) 24×4

6) 24×8

7) 33×2

8) 33×4

9) 33×8

10) 19×2

11) 19×4

12) 19×8

Extra!

1) 17×8

2) 29×8

3) 43×8

4) 22.5×8

5) 33.25×8

To use doubling help multiply

try these questions, use doubling to help:

$$\begin{array}{l} 1) 12 \times 2 \quad 24 \\ 2) 12 \times 4 \quad 48 \\ 3) 12 \times 8 \quad 96 \\ 4) 15 \times 2 \quad 30 \\ 5) 15 \times 4 \quad 60 \\ 6) 15 \times 8 \quad 120 \\ 7) 20 \times 2 \quad 40 \\ 8) 20 \times 4 \quad 80 \\ 9) 20 \times 8 \quad 160 \\ 10) 16 \times 2 \quad 32 \\ 11) 16 \times 4 \quad 64 \\ 12) 16 \times 8 \quad 128 \end{array}$$

$$\begin{array}{l} 1) 20 \times 2 \quad 40 \\ 2) 20 \times 4 \quad 80 \\ 3) 20 \times 8 \quad 160 \\ 4) 24 \times 2 \quad 48 \\ 5) 24 \times 4 \quad 96 \\ 6) 24 \times 8 \quad 192 \\ 7) 33 \times 2 \quad 66 \\ 8) 33 \times 4 \quad 132 \\ 9) 33 \times 8 \quad 264 \\ 10) 19 \times 2 \quad 38 \\ 11) 19 \times 4 \quad 76 \\ 12) 19 \times 8 \quad 152 \end{array}$$

Extra!

$$\begin{array}{l} 1) 17 \times 8 \\ 2) 29 \times 8 \\ 3) 43 \times 8 \\ 4) 22.5 \times 8 \\ 5) 33.25 \times 8 \end{array}$$

Plenary:

Half 56

$$\text{Half } 50 = 25$$

$$\text{Half } 6 = 3$$

$$25 + 3 = 28$$

What is half 560?

What is half 5600?