

# Distributive Law

## Multiplication Problems

Aim: To solve multiplication problems using the distributive law.

Distributive law helps us to solve multiplication problems by partitioning larger numbers.

For example:

$$16 \times 3 = 10 \times 3 + 6 \times 3 = 30 + 18 = 48$$

Use the distributive law to solve these multiplication problems:

1.  $18 \times 4 = \square \times 4 + \square \times 4 = \square + \square = \square$

2.  $23 \times 5 = \square \times 5 + \square \times 5 = \square + \square = \square$

3.  $24 \times 6 = \square \times 6 + \square \times 6 = \square + \square = \square$

4.  $25 \times 8 = \square \times 8 + \square \times 8 = \square + \square = \square$

Use the distributive law to solve these multiplication word problems. Show your working out.

5. Adam buys 8 packets of biscuits. There are 17 biscuits in each packet. How many biscuits does he have?

## Distributive Law Multiplication Problems

6. Miss Green buys 3 boxes of pencils for her class. There are 26 pencils in a box. How many pencils did she buy in total?

7. Apples cost 32p. Eve buys 5 apples. How much does she need to pay?

8. Anya buys 4 tubes of sweets. There are 38 sweets in each tube. How many sweets does she have?

# Distributive Law

## Multiplication Problems

### Answers

1.  $18 \times 4 = 10 \times 4 + 8 \times 4 = 40 + 32 = 72$

2.  $23 \times 5 = 20 \times 5 + 3 \times 5 = 100 + 15 = 115$

3.  $24 \times 6 = 20 \times 6 + 4 \times 6 = 120 + 24 = 144$

4.  $25 \times 8 = 20 \times 8 + 5 \times 8 = 160 + 40 = 200$

5.  $17 \times 8 = 10 \times 8 + 7 \times 8 = 80 + 56 = 136$

6.  $26 \times 3 = 20 \times 3 + 6 \times 3 = 60 + 18 = 78$

7.  $32\text{p} \times 5 = 30 \times 5 + 2 \times 5 = 150 + 10 = 160\text{p}$   
or  
 $\pounds 1.60$

8.  $38 \times 4 = 30 \times 4 + 8 \times 4 = 120 + 32 = 152$

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## Multiplication Problems

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Distributive law helps us to solve multiplication problems by partitioning larger numbers.

For example:

$$36 \times 7 = 30 \times 7 + 6 \times 7 = 210 + 42 = 252$$

Use the distributive law to solve these multiplication problems:

1.  $38 \times 5 = \square \times 5 + \square \times 5 = \square + \square = \square$

2.  $53 \times 6 = \square \times 6 + \square \times 6 = \square + \square = \square$

3.  $64 \times 8 = \square \times 8 + \square \times 8 = \square + \square = \square$

4.  $45 \times 9 = \square \times 9 + \square \times 9 = \square + \square = \square$

Use the distributive law to solve these multiplication word problems. Show your working out.

5. Adam buys 8 packets of biscuits. There are 37 biscuits in each packet. How many biscuits does he have?

## Distributive Law Multiplication Problems

6. Miss Green buys 7 boxes of pencils for her class. There are 46 pencils in a box. How many pencils did she buy in total?

7. Apples cost 52p. Eve buys 6 apples. How much does she need to pay?

8. Anya buys 9 tubes of sweets. There are 68 sweets in each tube. How many sweets does she have?

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## Multiplication Problems

### Answers

1.  $38 \times 5 = 30 \times 5 + 8 \times 5 = 150 + 40 = 190$

2.  $53 \times 6 = 50 \times 6 + 3 \times 6 = 300 + 18 = 318$

3.  $64 \times 8 = 60 \times 8 + 4 \times 8 = 480 + 32 = 512$

4.  $45 \times 9 = 40 \times 9 + 5 \times 9 = 360 + 45 = 405$

5.  $37 \times 8 = 30 \times 8 + 7 \times 8 = 240 + 56 = 296$

6.  $46 \times 7 = 40 \times 7 + 6 \times 7 = 280 + 42 = 322$

7.  $52\text{p} \times 6 = 50 \times 6 + 2 \times 6 = 300 + 12 = 312\text{p}$   
or  
£3.12

8.  $68 \times 9 = 60 \times 9 + 8 \times 9 = 540 + 72 = 612$

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For example:

$$67 \times 8 = 60 \times 8 + 7 \times 8 = 480 + 56 = 536$$

Use the distributive law to solve these multiplication problems:

1.  $58 \times 5 = \square \times 5 + \square \times 5 = \square + \square = \square$

2.  $73 \times 6 = \square \times 6 + \square \times 6 = \square + \square = \square$

3.  $84 \times 8 = \square \times 8 + \square \times 8 = \square + \square = \square$

4.  $95 \times 9 = \square \times 9 + \square \times 9 = \square + \square = \square$

Use the distributive law to solve these multiplication word problems. Show your working out.

5. Adam buys 8 packets of biscuits. There are 76 biscuits in each packet. How many biscuits does he have?

## Distributive Law Multiplication Problems

6. Miss Green buys 7 boxes of pencils for her class. There are 84 pencils in a box. How many pencils did she buy in total?

7. Apples cost 92p. Eve buys 6 apples. How much does she need to pay?

8. Anya buys 9 tubes of sweets. There are 87 sweets in each tube. How many sweets does she have?



# Distributive Law

## Multiplication Problems

### Answers

1.  $58 \times 5 = 50 \times 5 + 8 \times 5 = 250 + 40 = 290$

2.  $73 \times 6 = 70 \times 6 + 3 \times 6 = 420 + 18 = 438$

3.  $84 \times 8 = 80 \times 8 + 4 \times 8 = 640 + 32 = 672$

4.  $95 \times 9 = 90 \times 9 + 5 \times 9 = 810 + 45 = 855$

5.  $76 \times 8 = 70 \times 8 + 6 \times 8 = 560 + 48 = 608$

6.  $84 \times 7 = 80 \times 7 + 4 \times 7 = 560 + 28 = 588$

7.  $92\text{p} \times 6 = 90 \times 6 + 2 \times 6 = 540 + 12 = 552\text{p}$   
or  
 $\pounds 5.52$

8.  $87 \times 9 = 80 \times 9 + 7 \times 9 = 720 + 63 = 783$