Distributive Dilemma

I can use my understanding of the distributive law to help me to solve problems.

You will need a set of **Distributive Law Cards**.
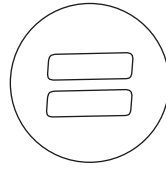
Match up the calculation with brackets, calculation without brackets, array and answer.

Check your answers with a partner.

Write them in this table.

Calculation (with brackets)	Equivalent Calculation (without brackets)	Array	Answer
4 × (6 + 2)	4 × 6 + 4 × 2	★★★★★★ ☆☆ ★★★★★★ ☆☆ ★★★★★★ ☆☆ ★★★★★★ ☆☆	32

Distributive Dilemma **Answers**
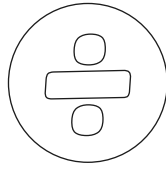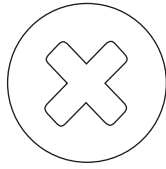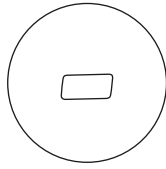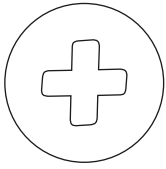
Question	Answer			

Match up the calculation with brackets, calculation without brackets, array and answer.

Calculation (with brackets)	Equivalent Calculation (without brackets)	Array	Answer
4 × (5 + 2)	4 × 5 + 4 × 2	★★★★★ ☆☆ ★★★★★ ☆☆ ★★★★★ ☆☆ ★★★★★ ☆☆	28
3 × (7 + 2)	3 × 7 + 3 × 2	★★★★★★★ ☆☆ ★★★★★★★ ☆☆ ★★★★★★★ ☆☆	27
8 × (5 - 2)	8 × 5 - 8 × 2	★★★☆☆ ★★★☆☆ ★★★☆☆ ★★★☆☆ ★★★☆☆ ★★★☆☆ ★★★☆☆ ★★★☆☆	24
6 × (9 + 2)	6 × 9 + 6 × 2	★★★★★★★★★ ☆☆ ★★★★★★★★★ ☆☆ ★★★★★★★★★ ☆☆ ★★★★★★★★★ ☆☆ ★★★★★★★★★ ☆☆ ★★★★★★★★★ ☆☆	66
3 × (6 - 1)	3 × 6 - 3 × 1	★★★★★☆ ★★★★★☆ ★★★★★☆	15
4 × (2 + 2)	4 × 2 + 4 × 2	★★ ☆☆ ★★ ☆☆ ★★ ☆☆ ★★ ☆☆	16
8 × (4 + 2)	8 × 4 + 8 × 2	★★★★ ☆☆ ★★★★ ☆☆ ★★★★ ☆☆ ★★★★ ☆☆ ★★★★ ☆☆ ★★★★ ☆☆ ★★★★ ☆☆ ★★★★ ☆☆	48
7 × (9 - 2)	7 × 9 - 7 × 2	★★★★★★★☆☆ ★★★★★★★☆☆ ★★★★★★★☆☆ ★★★★★★★☆☆ ★★★★★★★☆☆ ★★★★★★★☆☆ ★★★★★★★☆☆	49

Distributive Dilemma

I can use my understanding of the distributive law to help me to solve problems.

1) Write out the equivalent calculation and then find the answer.

The first one is completed as an example.

Calculation (with brackets)	Equivalent Calculation (without brackets)	Answer
4 × (6 + 2)	4 × 6 + 4 × 2	32
4 × (3 + 5)		
2 × (6 - 2)		
5 × (7 + 7)		
7 × (6 + 3)		
8 × (9 - 2)		
4 × (4 - 2)		
9 × (7 + 1)		
	3 × 12 - 3 × 7	
4 × (20 - 0)		
12 × (4 + 2)		

2) Write a calculation to go with each of these problems and then see if you can find the answer.

a) Eric has 4 packets of biscuits, each containing 9 biscuits; Melissa has 7 packets of biscuits, each containing 9 biscuits. How many biscuits do they have altogether?

b) Liu gets 5 pieces of ribbon; each one is 6cm long. Chen gets 8 pieces of ribbon; each one is also 6cm long. If they lay them down end-to-end, how long will the ribbon be in total?

c) Khalil and Corina have 12 packets of 3 sweets to share between them. Unfortunately, Khalil is greedy and eats 5 of the packets before Corina gets there! How many sweets are left for them to share now?

Distributive Dilemma **Answers**

Question	Answer	
1.	Write out the equivalent calculation and then find the answer.	

Calculation (with brackets)	Equivalent Calculation (without brackets)	Answer
4 × (6 + 2)	4 × 6 + 4 × 2	32
4 × (3 + 5)	4 × 3 + 4 × 5	32
2 × (6 - 2)	2 × 6 – 2 × 2	8
5 × (7 + 7)	5 × 7 + 5 × 7	70
7 × (6 + 3)	7 × 6 + 7 × 3	63
8 × (9 - 2)	8 × 9 – 8 × 2	56
4 × (4 - 2)	4 × 4 – 4 × 2	8
9 × (7 + 1)	9 × 7 + 9 × 1	72
3 × (12 – 7)	3 × 12 - 3 × 7	15
4 × (20 - 0)	4 × 20 + 4 × 0	80
12 × (4 + 2)	12 × 4 + 12 × 2	72

2.	Write a calculation to go with each of these problems and then see if you can find the answer.	
a	Eric has 4 packets of biscuits, each containing 9 biscuits; Melissa has 7 packets of biscuits, each containing 9 biscuits. How many biscuits do they have altogether? *9 × (4 + 7) = 9 × 4 + 9 × 7 = 99 = 99 biscuits*	
b	Liu gets 5 pieces of ribbon; each one is 6cm long. Chen gets 8 pieces of ribbon; each one is also 6cm long. If they lay them down end-to-end, how long will the ribbon be in total? *6 × (5 + 8) = 6 × 5 + 6 × 8 = 78 = 78cm*	
c	Khalil and Corina have 12 packets of 3 sweets to share between them. Unfortunately, Khalil is greedy and eats 5 of the packets before Corina gets there! How many sweets are left for them to share now? *3 × (12 – 5) = 3 × 12 - 3 × 5 = 21 = 21 sweets*	

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Distributive Dilemma

I can use my understanding of the distributive law to help me to solve problems.

1) Write out the equivalent calculation and then find the answer.

The first one is completed as an example.

Calculation (with brackets)	Equivalent Calculation (without brackets)	Answer
4 × (6 + 2)	4 × 6 + 4 × 2	32
12 × (3 + 5)		
9 × (9 - 2)		
8 × (7 + 7)		
	7 × 9 + 7 × 3	
8 × (8 - 2)		
4 × (12 - 2)		
9 × (7 + 4)		
	3 × 12 - 3 × 12	
4 × (45 - 0)		
	12 × 14 + 12 × 2	

2) Write a calculation to go with each of these problems and then see if you can find the answer.

a) Eric has 16 packets of biscuits, each containing 8 biscuits; Melissa has 7 packets of biscuits, each containing 8 biscuits. How many biscuits do they have altogether?

_____

b) Liu gets 17 pieces of ribbon; each one is 6cm long. Chen gets 6 pieces of ribbon; each one is also 6cm long. If they lay them end-to-end, how long will the ribbon be in total?

_____

c) Khalil and Corina have 24 packets of 6 sweets to share between them. Unfortunately, Khalil is greedy and eats 6 of the packets before Corina gets there! How many sweets are left for them to share now?

_____

Distributive Dilemma **Answers**

Question	Answer
1.	Write out the equivalent calculation and then find the answer.

Calculation (with brackets)	Equivalent Calculation (without brackets)	Answer
4 × (6 + 2)	4 × 6 + 4 × 2	32
12 × (3 + 5)	12 × 3 + 12 × 5	96
9 × (9 - 2)	9 × 9 – 9 × 2	63
8 × (7 + 7)	8 × 7 + 8 × 7	112
7 × (9 + 3)	7 × 9 + 7 × 3	84
8 × (8 - 2)	8 × 8 – 8 × 2	48
4 × (12 - 2)	4 × 12 – 4 × 2	40
9 × (7 + 4)	9 × 7 + 9 × 4	99
3 × (12 – 12)	3 × 12 - 3 × 12	0
4 × (45 - 0)	4 × 45 – 4 × 0	180
12 × (14 + 2)	12 × 14 + 12 × 2	192

2.	Write a calculation to go with each of these problems and then see if you can find the answer.
a	Eric has 16 packets of biscuits, each containing 8 biscuits. Melissa has 7 packets of biscuits, each containing 8 biscuits. How many biscuits do they have altogether? **8 × (16 + 7) = 8 × 16 + 8 × 7 = 184 = 184 biscuits**
b	Liu gets 17 pieces of ribbon; each one is 6cm long. Chen gets 6 pieces of ribbon; each one is also 6cm long. If they lay them end-to-end, how long will the ribbon be in total? **6 × (17 + 6) = 6 × 17 + 6 × 6 = 138 = 138cm**
c	Khalil and Corina have 24 packets of 6 sweets to share between them. Unfortunately, Khalil is greedy and eats 6 of the packets before Corina gets there! How many sweets are left for them to share now? **6 × (24 – 6) = 6 × 24 – 6 × 6 = 108 = 108 sweets**

4 × (5 + 2)	4 × 5 + 4 × 2	★★★★★ ☆☆ ★★★★★ ☆☆ ★★★★★ ☆☆ ★★★★★ ☆☆	28
3 × (7 + 2)	3 × 7 + 3 × 2	★★★★★★★ ☆☆ ★★★★★★★ ☆☆ ★★★★★★★ ☆☆	27
8 × (5 - 2)	8 × 5 - 8 × 2	★★★✗✗ ★★★✗✗ ★★★✗✗ ★★★✗✗ ★★★✗✗ ★★★✗✗ ★★★✗✗ ★★★✗✗	24
6 × (9 + 2)	6 × 9 + 6 × 2	★★★★★★★★★ ☆☆ ★★★★★★★★★ ☆☆ ★★★★★★★★★ ☆☆ ★★★★★★★★★ ☆☆ ★★★★★★★★★ ☆☆ ★★★★★★★★★ ☆☆	66
3 × (6 - 1)	3 × 6 - 3 × 1	★★★★★✗ ★★★★★✗ ★★★★★✗	15
4 × (2 + 2)	4 × 2 + 4 × 2	★★ ☆☆ ★★ ☆☆ ★★ ☆☆ ★★ ☆☆	16
8 × (4 + 2)	8 × 4 + 8 × 2	★★★★ ☆☆ ★★★★ ☆☆ ★★★★ ☆☆ ★★★★ ☆☆ ★★★★ ☆☆ ★★★★ ☆☆ ★★★★ ☆☆ ★★★★ ☆☆	48

| 7 × (9 - 2) | 7 × 9 - 7 × 2 | ★★★★★★★✗✗ ★★★★★★★✗✗
★★★★★★★✗✗ ★★★★★★★✗✗
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