**Year 7 Maths (Distributive Law)**

**Part One**

1. Find the total area of the shape below:

*1cm*

*1cm*

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1. Find the total area of the shape below:

*6m*

*3m*

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1. Find the area of the shape below:

$$x$$

2

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**Part Two**

Evaluate the following expression

$$3×(2+6)$$

Evaluate this expression

$$3×2+3×6$$

What do you notice about the result? Explain why the results are the same.

**Part Three**

Joe is an architect and designs a classroom as shown below:

$x$ *metres*

4 metres

1. What is the total area of the classroom?

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Joe decides to add an extension to the classroom as shown below:

4 *metres*

$x$ *metres*

$2$ *metres*

1. What is the length of the “longer” side of the classroom?

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1. What is the area of the extension?

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1. What is the total area of the new classroom?

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Joe’s manager says that the $'x^{'}$ must be 6 metres. What is the total area of the classroom? *Including the extension.*

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**Part Four**

Joe thinks that square rooms are better for student learning so designs another classroom as shown below:

$y$ metres

$y$ metres

1. What is the total area of the classroom?

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Again, Joe decides to add an extension to the classroom as shown below:

$$y$$

$$y$$

$$z$$

1. What is the length of the “longer side of the classroom”?

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1. What is the area of the extension?

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1. What is the total area of the new classroom?

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**Part Five**

Expand the following expression

|  |  |
| --- | --- |
| $$2×(x+1)$$ | $$3(x+2)$$ |
| $$4(2x+1)$$ | $$5(3x-2)$$ |

**Part Six**

Consider whether the following equations are true or false by circling T or F.

***Hint:*** Use numbers in place of pronumerals to see if it is True or False.

|  |  |  |
| --- | --- | --- |
| $$a×b=b×a$$ | T | F |
| $$x+y=y+x$$ | T | F |
| $$a+\left(b+c\right)=\left(a+b\right)+c$$ | T | F |
| $$a×\left(b×c\right)=\left(a×b\right)×c$$ | T | F |