

Mr Coles' 8X2 Maths Weekly Task Grid – Week commencing 22nd June

Choose **1 purple task**, **1 orange task**, **2 green tasks (answers now included)** and **2 yellow tasks** from the grid. Complete them this week.

<p>Task 1</p> <p>Make a mind map of any basic algebra information you feel comfortable with so far. Add to it as you go along. Here is a start:</p> <div><div><div>2 x a = 2a</div><div>3 x q = 3q</div><div>2a x 3 = 6a</div><div>a x b = ab</div><div>2a x 3b = 6ab</div><div>a + 2 = $\frac{a}{2}$</div><div>a + a = 2a</div><div>a x a = a²</div></div></div> <p>Enlarged on next pages</p>	<p>Task 2</p> <p>Expanding Brackets (called Single Brackets) has been set on MyMaths.</p> <p>Make sure you do the lesson first! I again recommend mymaths this week in terms of the lesson, but doing a mix of this and Corbett is fine.</p> <p>Log on with your individual logins (email me if you can't get on). Work through the exercises then attempt the homework.</p>	<p>Task 3</p> <p>Go for Expanding Brackets on Corbett Maths: Video: Expanding Brackets</p> <p>Questions: Expanding Brackets</p> <p>Answers: Expanding Brackets</p> <p>You don't need to do all questions, maybe around a quarter.</p>	<p>Task 4</p> <p>Create a poster/PowerPoint/revision cards on Basic Algebra.</p> <p>Website to help:</p> <p>BBC Bitesize – Basic Algebra</p> <p>BBC Bitesize – Brackets</p>																																																																																																														
<p>Task 5</p> <p>Make a quiz/PowerPoint/Kahoot on questions involving Expanding Brackets.</p> <p>Questions can involve anything to do with it. The more unique the better!</p> <p>Good ones will be featured on next week's grid.</p>	<p>NEW</p> <p>Task 6</p> <p>Blockbusters (ish)! Find your way across the maze by going through squares that are correct. Pick one from the first column, if it is true <i>like</i> $5(x + 4) = 5x + 20$ then highlight it in a green colour or red if it isn't. You can then move up, down, left or right to a new square. You need to find a route of green to the other side.</p> <div><table><tr><td>12-16</td><td>12-17</td><td>12-18</td><td>12-19</td><td>12-20</td><td>12-21</td><td>12-22</td><td>12-23</td><td>12-24</td><td>12-25</td></tr><tr><td>12-26</td><td>12-27</td><td>12-28</td><td>12-29</td><td>12-30</td><td>12-31</td><td>12-32</td><td>12-33</td><td>12-34</td><td>12-35</td></tr><tr><td>12-36</td><td>12-37</td><td>12-38</td><td>12-39</td><td>12-40</td><td>12-41</td><td>12-42</td><td>12-43</td><td>12-44</td><td>12-45</td></tr><tr><td>12-46</td><td>12-47</td><td>12-48</td><td>12-49</td><td>12-50</td><td>12-51</td><td>12-52</td><td>12-53</td><td>12-54</td><td>12-55</td></tr><tr><td>12-56</td><td>12-57</td><td>12-58</td><td>12-59</td><td>12-60</td><td>12-61</td><td>12-62</td><td>12-63</td><td>12-64</td><td>12-65</td></tr><tr><td>12-66</td><td>12-67</td><td>12-68</td><td>12-69</td><td>12-70</td><td>12-71</td><td>12-72</td><td>12-73</td><td>12-74</td><td>12-75</td></tr><tr><td>12-76</td><td>12-77</td><td>12-78</td><td>12-79</td><td>12-80</td><td>12-81</td><td>12-82</td><td>12-83</td><td>12-84</td><td>12-85</td></tr><tr><td>12-86</td><td>12-87</td><td>12-88</td><td>12-89</td><td>12-90</td><td>12-91</td><td>12-92</td><td>12-93</td><td>12-94</td><td>12-95</td></tr><tr><td>12-96</td><td>12-97</td><td>12-98</td><td>12-99</td><td>12-100</td><td>12-101</td><td>12-102</td><td>12-103</td><td>12-104</td><td>12-105</td></tr><tr><td>12-106</td><td>12-107</td><td>12-108</td><td>12-109</td><td>12-110</td><td>12-111</td><td>12-112</td><td>12-113</td><td>12-114</td><td>12-115</td></tr><tr><td>12-116</td><td>12-117</td><td>12-118</td><td>12-119</td><td>12-120</td><td>12-121</td><td>12-122</td><td>12-123</td><td>12-124</td><td>12-125</td></tr></table></div> <p>Enlarged on next pages.</p>	12-16	12-17	12-18	12-19	12-20	12-21	12-22	12-23	12-24	12-25	12-26	12-27	12-28	12-29	12-30	12-31	12-32	12-33	12-34	12-35	12-36	12-37	12-38	12-39	12-40	12-41	12-42	12-43	12-44	12-45	12-46	12-47	12-48	12-49	12-50	12-51	12-52	12-53	12-54	12-55	12-56	12-57	12-58	12-59	12-60	12-61	12-62	12-63	12-64	12-65	12-66	12-67	12-68	12-69	12-70	12-71	12-72	12-73	12-74	12-75	12-76	12-77	12-78	12-79	12-80	12-81	12-82	12-83	12-84	12-85	12-86	12-87	12-88	12-89	12-90	12-91	12-92	12-93	12-94	12-95	12-96	12-97	12-98	12-99	12-100	12-101	12-102	12-103	12-104	12-105	12-106	12-107	12-108	12-109	12-110	12-111	12-112	12-113	12-114	12-115	12-116	12-117	12-118	12-119	12-120	12-121	12-122	12-123	12-124	12-125	<p>Task 7</p> <p>Fahima buys</p> <p>2 packets of bread rolls costing £1.50 for each packet 1 bottle of ketchup costing £1.60 3 packets of sausages</p> <p>Fahima pays with a £10 note. She gets 30p change.</p> <p>Fahima works out that one packet of sausages costs £2.30</p> <p>Is Fahima right? You must show how you get your answer.</p> <p>Enlarged on next pages.</p>	<p>Task 8</p> <p>If you aren't sure how to do any of these, just email me. I've enlarged the questions on the next page</p> <div><div><div>1) 44.2×7.4</div><div>2) Share £120 in the ratio 2:5:1</div><div>3) Decrease 70 by 90%</div><div>4) $10 - 70 \div 7 + \sqrt{64}$</div><div>5) A recipe for 4 biscuits needs 90g of flour. How much flour is needed for 10 biscuits?</div><div>6) Expand $x(x - 5)$</div><div>7) Solve $4x - 5 = -25$</div><div>8) Factorise fully $8x + 12$</div><div>9) What is the LCM of 8 and 7</div><div>10) $\frac{3}{8} + \frac{5}{7}$</div></div></div>
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<p>NEW</p> <p>Task 9</p> <p>Answer the top questions made by James B. last week on Listing Outcomes!</p> <p>There are two questions, they are on the next pages.</p> <p>Also, Bill eats a lot of junk food and should probably cut down.</p>	<p>NEW</p> <p>Task 10</p> <p>Try this Brackets game. I suggest Level 3, 4 then 5. Level 1 and 2 teach you about how to apply a negative across the brackets which isn't bad either.</p> <p>The buttons to change the level are underneath the questions.</p>	<p>Task 11</p> <p>Problem Solving:</p> <p>This hexagon has a perimeter of 24 cm.</p> <div><div><div></div><div></div><div></div></div></div> <p>Three of the hexagons are used to make this shape.</p> <p>What is the perimeter of the shape?</p> <p>Enlarged on next pages.</p>	<p>Task 12</p> <p>Simplifying 1 has also been set on MyMaths – this is in case you feel like you need a little help reminding yourself of how algebra works.</p> <p>Or instead, Brackets has been set – this includes expanding double brackets which is a more advanced challenge, you've all done it before...</p> <div><div><div>ASPIRE</div></div></div>																																																																																																														

Task 1

Simple Algebra Rules

www.cazoommaths.com

$$2 \times a = 2a$$

$$3 \times q = 3q$$

$$2a \times 3 = 6a$$

$$a \times b = ab$$

$$2a \times 3b = 6ab$$

$$a \div 2 = \frac{a}{2}$$

$$a + a = 2a$$

$$a \times a = a^2$$

Task 6

$6(x + 5)$ $6x + 30$	$2(2x + 3)$ $4x + 6$	$4(5x - 9)$ $45x - 49$	$4(6t + 1)$ $24x + 4$	$9(6x - 2)$ $54x - 18$	$3(7t - 5)$ $21x - 15$	$5(1 - x)$ $5x + 1$	$x(x - 1)$ $x^2 - x$
$4(x + 2)$ $4x + 2$	$5(2x - 3)$ $10x - 3$	$3(8 - b)$ $24 - b$	$5(5x + 2)$ $25x + 10$	$2(7x - 3)$ $14x - 6$	$9(5 - b)$ $45 - 9b$	$4(3x + 6)$ $12x + 24$	$3(4t + 3)$ $12x + 9$
$5(x + 4)$ $5x + 20$	$x(x + 5)$ $x^2 + 5x$	$7(3x - 2)$ $21y - 14$	$t(t + 3)$ $t^2 + 3t$	$6(2x + 5)$ $12y + 30$	$8(x + 4)$ $8x + 32$	$6(8x + 3)$ $46x + 18$	$9(6 - x)$ $9x - 54$
$3(x + 7)$ $x + 21$	$2(6x - 1)$ $12x - 2$	$3(x - 3)$ $3x - 9$	$8(3 - x)$ $24 - 8x$	$x(x + 6)$ $2x + 6x$	$x(x - 11)$ $x^2 - 11x$	$7(6x - 9)$ $42x - 61$	$x(x - 9)$ $2x - 9x$
$5(x - 6)$ $5x + 30$	$7(2 - x)$ $7x + 14$	$8(7 - h)$ $56 - 8h$	$5(x - 8)$ $5x - 8$	$4(4x - 3)$ $16x - 12$	$3(6x + 5)$ $18x + 15$	$6(y - 1)$ $6y - 6$	$2(5x - 3)$ $10x + 6$
$3(5c - 1)$ $15c - 3$	$6(7 - x)$ $42 - 6x$	$9(3x + 5)$ $24x + 45$	$7(x - 2)$ $7x + 14$	$x(x + 3)$ $x^2 + x^3$	$3(3x + 7)$ $9x - 21$	$9(2y + 1)$ $18y + 9$	$p(p + 4)$ $p^2 + 4p$
$x(x - 7)$ $x^2 - 7x$	$2(3x + 1)$ $23x + 21$	$3(y - 7)$ $3y - 18$	$2(5 - g)$ $10 - 2g$	$5(4x + 1)$ $20x + 1$	$3(9x - 8)$ $27x - 8$	$5(x + 5)$ $5x + 25$	$6(2t + 8)$ $12x + 48$

Task 7

Fahima buys

- 2 packets of bread rolls costing £1.50 for each packet
- 1 bottle of ketchup costing £1.60
- 3 packets of sausages

Fahima pays with a £10 note.
She gets 30p change.

Fahima works out that one packet of sausages costs £2.30

Is Fahima right?

You must show how you get your answer.

Task 8

- 1) 44.2×7.4
- 2) Share £120 in the ratio 2: 5: 1
- 3) Decrease 70 by 90%
- 4) $10 - 70 \div 7 + \sqrt{64}$
- 5) A recipe for 4 biscuits needs 90g of flour. How much flour is needed for 10 biscuits?
- 6) Expand $x(x - 5)$
- 7) Solve $4x - 5 = -25$
- 8) Factorise fully $8x + 12$
- 9) What is the LCM of 8 and 7
- 10) $\frac{3}{8} + \frac{5}{7}$

Task 9 Question 1

Bill would like an ice cream sundae. He has five flavours to choose from: Vanilla, Chocolate, Cookies and Cream, Strawberry and Peach. He can choose two flavours for his sundae.

- 1) List all possible combinations.
- 2) Write down the probability that a random sundae contains chocolate ice cream.
- 3) Write down the probability that a random sundae contains a fruit flavoured ice cream.

Task 9 Question 2

Bill would like a pizza. He has five toppings to choose from: pepperoni, ham, mushrooms, pepper and chicken. He can choose two toppings for his pizza.

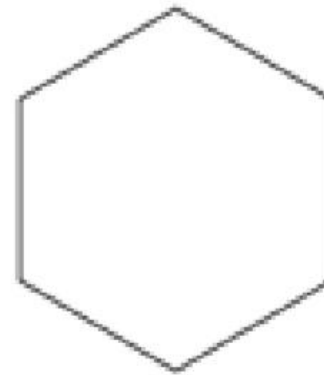
- 1) List all possible combinations.
- 2) Write down the probability that a random pizza contains a vegetable.
- 3) Write down the probability that a random pizza contains meat and a vegetable.

James B.

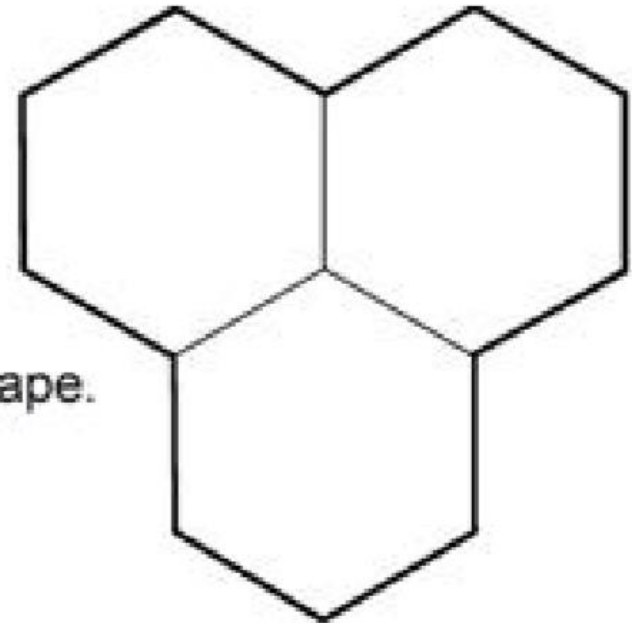
Task 11

Problem Solving:

This hexagon has a perimeter of 24 cm.



Three of the hexagons are used to make this shape.



What is the perimeter of the shape?

Task 12

Green Answers (Task 7, 8, 11)

Quick 10 – Recall

- 1) 44.2×7.4 **327.08**
- 2) Share £120 in the ratio 2: 5: 1
£30 : £75 : £15
- 3) Decrease 70 by 90%
7
- 4) $10 - 70 \div 7 + \sqrt{64}$ **8**
- 5) A recipe for 4 biscuits needs 90g of flour. How much flour is needed for 10 biscuits? **225g**
- 6) Expand $x(x - 5)$ **$x^2 - 5x$**
- 7) Solve $4x - 5 = -25$ **$x = -5$**
- 8) Factorise fully $8x + 12$
 $4(2x + 3)$
- 9) What is the LCM of 8 and 7
56
- 10) $\frac{3}{8} + \frac{5}{7} = \frac{61}{56} = 1\frac{5}{56}$

Need to know
formulae/facts

$11^2, 12^2, 13^2, 14^2, 15^2$

**121, 144,
169, 196, 225**

Use of a
calculator

Calculate

$$\sin^{-1}\left(\frac{2}{5}\right) = 23.6^\circ$$

Fahima buys

2 packets of bread rolls costing £1.50 for each packet **$2 \times 1.50 = £3$**

1 bottle of ketchup costing £1.60

3 packets of sausages **$3 + 1.60 + 0.30 = £4.90$**

Fahima pays with a £10 note.

She gets 30p change.

$$10 - 4.90 = £5.10$$

Fahima works out that one packet of sausages costs £2.30

Is Fahima right?

$$5.10 \div 3 = £1.70 \text{ per sausage pack}$$

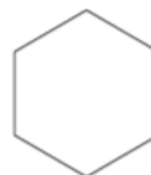
You must show how you get your answer.

No Fahima is not right.

Problem Solving:

This hexagon has a perimeter of 24 cm.

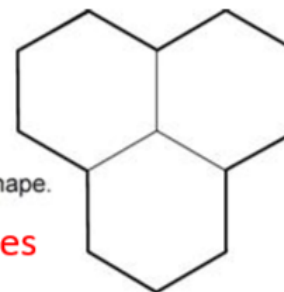
$$24 \div 6 = 4\text{cm}$$



Perimeter
all sides
added up

Three of the hexagons are used to make this shape.

Perimeter of this shape = 12 sides



What is the perimeter of the shape? **$12 \times 4 = 48\text{cm}$**