

End of KS2 Expectations

(with Worked Examples)

Working At the Expected Standard	Examples
<p>1 The pupil can demonstrate an understanding of place value, including large numbers and decimals.</p>	<p>What is the value of the '7' in 276 541?</p> <p>In which number is the underlined digit worth more? Circle the number. 6<u>3</u>2 673 or <u>2</u>59 064</p> <p>Create six digit numbers where the digit sum is five and the thousands digit is two: 302 000, 112 001</p> <p>Find the difference between the largest and smallest whole numbers that can be made from using three digits:</p> <p>Digits 2, 5, 7</p> <ul style="list-style-type: none">• Largest number 752• Smallest = 257• Difference = $752 - 257 = 495$ <p>$8.09 = 8 + 9 / ?$ $8.09 = 8 + 9/100$</p> <p>$28.13 = 28 + ? + 0.03$ $28.13 = 28 + 0.1 + 0.03$</p>
<p>2 The pupil can calculate mentally, using efficient strategies such as manipulating expressions using commutative and distributive properties to simplify the calculation.</p>	<p>$53 - 82 + 47 = 53 + 47 - 82 = 100 - 82 = 18$</p> <p>$20 \times 7 \times 5 = 20 \times 5 \times 7 = 100 \times 7 = 700$</p> <p>$53 \div 7 + 3 \div 7 = (53 + 3) \div 7 = 56 \div 7 = 8$</p> <p>Make choices about calculation method and use suitable mental method where possible: $81 - 39$ as a mental calculation (subtract 40, add 1); $1208 \div 4$ as a "jotting" (half twice); 54.9×23.6 as a written method.</p>
<p>3 The pupil can use formal methods to solve multi-step problems.</p>	<p>Find the change from £20 for three items that cost £1.24, £7.92 and £2.55.</p> <p>A roll of material is 6m long: how much is left when 5 pieces of 1.15m are cut from the roll?</p> <p>A bottle of drink is 1.5 litres, how many cups of 175ml can be filled from the bottle, and how much drink is left?</p>
<p>4 The pupil can recognise the relationship between fractions, decimals and percentages and can express them as equivalent quantities.</p>	<p>One piece of cake that has been cut into 5 equal slices can be expressed as $1/5$ or 0.2 or 20% of the whole cake.</p> <p>Know $68/100 = 0.68 = 68\%$</p> <p>Order 0.30, $1/4$, 40%, 0.75, $10/20$ by converting to fraction /100: e.g. $30/100$, $25/100$, $40/100$, $75/100$, $50/100$ so $1/4$, 0.30, 40%, $10/20$, $75/100$</p>

End of KS2 Expectations

Working At the Expected Standard

Examples

- 5 The pupil can calculate using fractions, decimals or percentages.

Knowing that 7 divided by 21 is the same as $7/21$ and that this is equal to $1/3$.

$$15\% \text{ of } 60 = 10\% \text{ of } 60 + 5\% \text{ of } 60 = 6 + 3 = 9$$

$$1 \frac{1}{2} + 3 \frac{3}{4} = \frac{6}{4} + \frac{3}{4} = \frac{9}{4} = 2 \frac{1}{4}$$

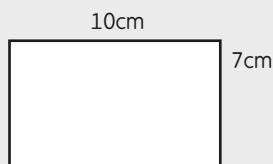
$$7/9 \text{ of } 108 = 108 \div 9 \times 7 = 12 \times 7 = 84$$

$$0.8 \times 70 = 70 \times 0.8 = 70 \div 10 \times 8 = 7 \times 8 = 56$$

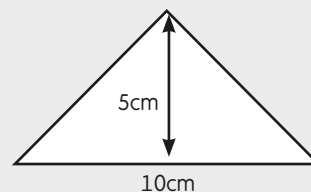
$$2.4 \text{ kg} = 1/10 \text{ of } 24 \text{ kg} = 2 \text{ kg} + 400 \text{ g} = 2 \times 1.2 \text{ kg} = 1\% \text{ of } 240 \text{ kg}$$

- 6 The pupil can substitute values into a simple formula to solve problems.

Perimeter of a rectangle = $2(a + b)$: sides are 10 cm and 7 cm, perimeter = $2(10 \text{ cm} + 7 \text{ cm}) = 17 \text{ cm} \times 2 = 34 \text{ cm}$



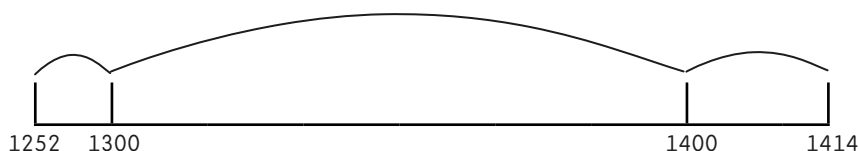
Area of a triangle = $1/2(\text{base} \times \text{height})$: triangle has base of 10 cm and a height of 5 cm, area = $1/2 \times 5 \text{ cm} \times 10 \text{ cm} = 1/2 \times 50 \text{ cm}^2 = 25 \text{ cm}^2$



Celsius to Fahrenheit $C \times 1.8 + 32 = F$: $300C \times 1.8 + 32 = 54 + 32 = 860F$

- 7 The pupil can calculate with measures.

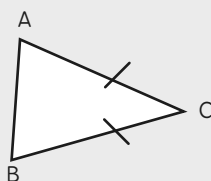
Calculate length of a bus journey given start and end times: 1252 to 1414 = 1 hour 22 minutes.



Convert 0.05km into m (50 m) and then into cm (5 000 cm).

- 8 The pupil can use mathematical reasoning to find missing angles.
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The missing angle in an isosceles triangle when one of the angles is given:



$$\angle A = \angle C$$

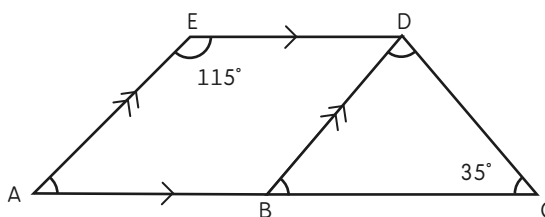
$$\angle A = 62^\circ$$

$$\angle A + \angle B + \angle C = 180^\circ$$

$$\angle A = 180^\circ - 2 \times 62^\circ$$

$$= 180^\circ - 124^\circ = 56^\circ$$

The missing angle in a more complex diagram using knowledge about angles at a point and vertically opposite angles:



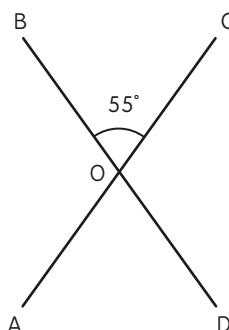
Because $\angle AED + \angle BED = 180^\circ$

$$\angle BED + \angle BEC = 180^\circ$$

$$\angle BEC + \angle BEC + \angle BCD = 180^\circ$$

Continued...

- 8 The pupil can use mathematical reasoning to find missing angles.



$$\angle AOB + \angle BOC = 180^\circ$$

$$\angle AOB = 125^\circ$$