Key Stage 2 Maths Practice Reasoning:
Percentage and Decimal Equivalents

For each model, write the fraction and percentage of the cubes that are black.

1. %

2. %

3. %

4. %

5. %

6. %
7. Calculate the values of the following, and order from smallest to largest.

q. 

a) 20% of 25 

\[ \frac{20}{100} \times 25 = \] 

b) \( \frac{1}{2} \) of 24 

\[ \frac{1}{2} \times 24 = \] 

c) \( \frac{2}{5} \) of 10 

\[ \frac{2}{5} \times 10 = \] 

8. 

Smallest: [ ]

Largest: [ ]

10. 

a) \( \frac{4}{5} \) of 35 

\[ \frac{4}{5} \times 35 = \] 

b) 75% of 32 

\[ \frac{75}{100} \times 32 = \] 

c) \( \frac{1}{2} \) of 52 

\[ \frac{1}{2} \times 52 = \] 

Smallest: [ ]

Largest: [ ]

11. 

a) 25% of 20 

\[ \frac{25}{100} \times 20 = \] 

b) 80% of 10 

\[ \frac{80}{100} \times 10 = \] 

c) \( \frac{1}{20} \) of 80 

\[ \frac{1}{20} \times 80 = \] 

Smallest: [ ]

Largest: [ ]
12.

a) \( \frac{1}{25} \) of 75  

b) \( \frac{2}{5} \) of 15  

c) 40% of 10

\[ \square \hspace{2cm} \square \hspace{2cm} \square \]

smallest  

largest

13.

a) 12% of 50  

b) \( \frac{1}{4} \) of 28  

c) \( \frac{4}{5} \) of 10

\[ \square \hspace{2cm} \square \hspace{2cm} \square \]

smallest  

largest

14.

a) 50% of 48  

b) \( \frac{1}{5} \) of 125  

c) 30% of 70

\[ \square \hspace{2cm} \square \hspace{2cm} \square \]

smallest  

largest

15.

a) \( \frac{4}{5} \) of 45  

b) 25% of 140  

c) 60% of 55

\[ \square \hspace{2cm} \square \hspace{2cm} \square \]

smallest  

largest
16.

a) 36% of 125  

b) $\frac{2}{5}$ of 105  

c) $\frac{3}{4}$ of 64

Complete the table to match the fractions, decimal fractions and percentages.

<table>
<thead>
<tr>
<th></th>
<th>Fraction</th>
<th>Decimal Fraction</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>17.</td>
<td></td>
<td></td>
<td>40%</td>
</tr>
<tr>
<td>18.</td>
<td></td>
<td>0.50</td>
<td></td>
</tr>
<tr>
<td>19.</td>
<td>$\frac{1}{4}$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>20.</td>
<td></td>
<td></td>
<td>80%</td>
</tr>
<tr>
<td>21.</td>
<td></td>
<td>0.30</td>
<td></td>
</tr>
<tr>
<td>22.</td>
<td>$\frac{1}{5}$</td>
<td></td>
<td></td>
</tr>
<tr>
<td>23.</td>
<td></td>
<td>0.75</td>
<td></td>
</tr>
<tr>
<td>24.</td>
<td>$\frac{7}{25}$</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Shade the following shapes so that the given fraction, decimal fraction or percentage is shaded.

25.  

80% =  

26.  

$\frac{2}{5}$ =  

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27. 0.15 =

28. 92% =

29. $\frac{3}{10} =

30. 12% =
<table>
<thead>
<tr>
<th>question</th>
<th>answer</th>
<th>notes</th>
</tr>
</thead>
</table>
| 1        | Fraction: $\frac{2}{5}$  
          | Percentage: 40%    |       |
| 2        | Fraction: $\frac{7}{10}$  
          | Percentage: 70%    |       |
| 3        | Fraction: $\frac{13}{20}$  
          | Percentage: 65%    |       |
| 4        | Fraction: $\frac{21}{25}$  
          | Percentage: 84%    |       |
| 5        | Fraction: $\frac{4}{5}$    
          | Percentage: 80%    |       |
| 6        | Fraction: $\frac{1}{5}$    
          | Percentage: 20%    |       |
| 7        | Fraction: $\frac{3}{20}$   
          | Percentage: 35%    |       |
| 8        | Fraction: $\frac{9}{25}$   
          | Percentage: 36%    |       |
| 9        | a = 5  
          | b = 12  
          | c = 4  
          | Order = C, A, B |       |
| 10       | a = 28  
          | b = 24  
          | c = 26  
          | Order = B, C, A |       |
| 11       | a = 5  
          | b = 8  
          | c = 4  
          | Order = C, A, B |       |
| 12       | a = 3  
          | b = 6  
          | c = 4  
          | Order = A, C, B |       |
| 13       | a = 6  
          | b = 7  
          | 4 = 8  
          | Order = A, B, C |       |
| 14       | a = 24  
          | b = 25  
          | 4 = 21  
          | Order = C, A, B |       |
| 15       | a = 36  
          | b = 35  
          | 4 = 33  
<pre><code>      | Order = C, B, A |       |
</code></pre>
<table>
<thead>
<tr>
<th>question</th>
<th>answer</th>
<th>notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>16</td>
<td>a = 45, b = 42, 4 = 48, Order = B, A, C</td>
<td></td>
</tr>
</tbody>
</table>

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<tr>
<td>17</td>
<td>(\frac{2}{5})</td>
<td>0.40</td>
<td>40%</td>
</tr>
<tr>
<td>18</td>
<td>(\frac{1}{2})</td>
<td>0.50</td>
<td>50%</td>
</tr>
<tr>
<td>19</td>
<td>(\frac{1}{4})</td>
<td>0.25</td>
<td>25%</td>
</tr>
<tr>
<td>20</td>
<td>(\frac{4}{5})</td>
<td>0.80</td>
<td>80%</td>
</tr>
<tr>
<td>21</td>
<td>(\frac{3}{10})</td>
<td>0.30</td>
<td>30%</td>
</tr>
<tr>
<td>22</td>
<td>(\frac{1}{5})</td>
<td>0.20</td>
<td>20%</td>
</tr>
<tr>
<td>23</td>
<td>(\frac{3}{4})</td>
<td>0.75</td>
<td>75%</td>
</tr>
<tr>
<td>24</td>
<td>(\frac{7}{25})</td>
<td>0.28</td>
<td>28%</td>
</tr>
</tbody>
</table>

25  4 squares shaded
26  4 squares shaded
27  3 squares shaded
28  23 squares shaded
29  6 squares shaded
30  3 squares shaded