Assessment Schedule – 2006

Mathematics: Solve straightforward number problems in context (90151)

Evidence Statement

<table>
<tr><th></th><th>Criteria</th><th>No.</th><th>Evidence</th><th>Code</th><th>Judgement</th><th>Sufficiency</th></tr>
<tr><td rowspan="4">Achievement</td><td rowspan="4">Solve straightforward number problems in context.</td><td>1</td><td>$0.4 \times \$130 = \mathbf{\$52}$</td><td>A</td><td>Units are not required anywhere.
Accept $52.0</td><td rowspan="4">2 of code A.

Replacement evidence:
Q 5, 6, 7, 8</td></tr>
<tr><td>2</td><td>$0.06 \div 1.75 \times 100 = 3.4285\ldots$
$= \mathbf{3.4\%}$</td><td>A</td><td>Any correct rounding / truncation anywhere. *
Accept 3.5%</td></tr>
<tr><td>3</td><td>$1 - \frac{1}{3} - \frac{1}{4} = 1 - \frac{7}{12} = \frac{5}{12}$</td><td>A</td><td>Accept 0.41666…
eg 0.41, or 0.42.
Or equivalent.</td></tr>
<tr><td>4</td><td>$40 \div 6 \times 0.75 = \mathbf{5kg}$</td><td>A</td><td></td></tr>
<tr><td rowspan="3">Achievement with Merit</td><td rowspan="3">Solve number problems in context, involving manipulation, several steps or reversing processes.</td><td>5</td><td>$\$2\ 430 \div 1.125 = \mathbf{\$2\ 160}$</td><td>A / M</td><td>Units are not required anywhere.</td><td rowspan="3">Achievement plus
2 of code M

OR
3 of code M

Replacement evidence:
Q 8</td></tr>
<tr><td>6</td><td>$\$28\ 500 \div 0.737 = \$38\ 670.28\ \ldots\ldots$
$\approx \mathbf{\$38\ 670}$</td><td>A / M</td><td>Any correct rounding / truncation.
Accept any correct rounding / truncation with working. *</td></tr>
<tr><td>7</td><td>$\$1.0449 \times 10^9 \div (\$9.56 \times 10^8)$
$= 1.09299\ldots.$
This is an increase of $\approx \mathbf{9.3\%}$
OR
$\%\ \text{increase} = \frac{1.0449 \times 10^9 - 9.56 \times 10^8}{9.56 \times 10^8} \times 100$
$= 9.299\ldots \approx 9.3\%$</td><td>A / M</td><td>Money-answers should not have more than 2 dp.</td></tr>
<tr><td>Achievement with Excellence</td><td>Devise a strategy and solve a number problem.</td><td>8</td><td>
<table>
<tr><th colspan="2">@ 3.25%</th><th colspan="3">@1.3%</th></tr>
<tr><td>Yr</td><td>5 000</td><td>Yr</td><td>6mth</td><td>5 000</td></tr>
<tr><td>1</td><td>5 162.50</td><td>1</td><td>2</td><td>5 130.85</td></tr>
<tr><td></td><td></td><td></td><td>3</td><td>5 197.55</td></tr>
<tr><td>2</td><td>5 330.28</td><td>2</td><td>4</td><td>5 265.11</td></tr>
<tr><td></td><td></td><td></td><td>5</td><td>5 333.56</td></tr>
<tr><td>3</td><td>5 503.52</td><td>3</td><td>6</td><td>5 402.90</td></tr>
</table>
Scheme 1
Value is $5 330.28 when the 2½ years is up. (It doesn’t change after 2 years is up.)
Scheme 2
Value is $5 333.56 after 2½ years.

Recommendation:
Choose Scheme 2, because it is worth more after the 2½ years is up.

Candidates might go further and investigate a combination of schemes eg
if Jemima invests in Scheme 1 for two years, then transfers to Scheme 2 for the last 6 months, the value is:
$\$5\ 330.28 \times 1.013 = \$5\ 399.57$
In this case, the recommendation would be: choose the combined scheme because it is worth most after the given time.</td><td>A A

M

E</td><td>Give code A for EITHER scheme value correct for 2½ years.
Give code M when both scheme values are correct for 2½ years or

There is 1 minor error late in the calculations of any scheme and then the conclusion is consistently correct

For Excellence, calculations and / or explanations are needed to support the values of at least TWO possibilities, and a reasoned decision on which scheme is best.

Accept other well-reasoned recommendations.</td><td>Achievement with Merit plus

code E.</td></tr>
</table>

*** Re Rounding / truncation**
Where correct working is given to support / show how an answer was obtained, then the comment “*accept any rounding / truncation*” applies. Money situations are an exception: more than 2 dp cannot generally be accepted as a *correct answer in context.*

When CAO applies, the answer presented needs to be “accurate enough” to count as evidence of appropriate processes having been used.

Judgement Statement

Mathematics: Solve straightforward number problems in context (90151)

Achievement	Achievement with Merit	Achievement with Excellence
Solve straightforward number problems in context. 2 × A	Solve number problems in context involving manipulation, several steps or reversing processes. Achievement *plus* 2 × M **OR** 3 × M	Devise a strategy and solve a number problem. Merit *plus* 1 × E