



13 Heuristic

Working Backwards

1 Work backwards by changing “+” to “-”, “-” to “+”, “×” to “÷” and finally “÷” to “×”.

(a) $(?) \xrightarrow{\div 3} \square \xrightarrow{+ 5} \square \xrightarrow{\times 2} 60$

Solution:

$\square \xleftarrow{\times 3} \square \xleftarrow{- 5} \square \xleftarrow{\div 2} 60$

(b) $(?) \xrightarrow{\times 3} \square \xrightarrow{- 4} \square \xrightarrow{\div 4} 14$

Solution:

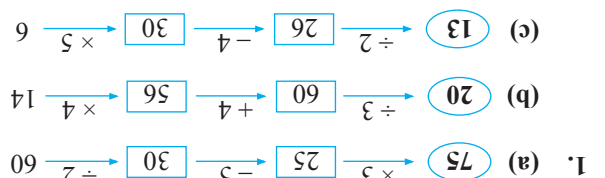
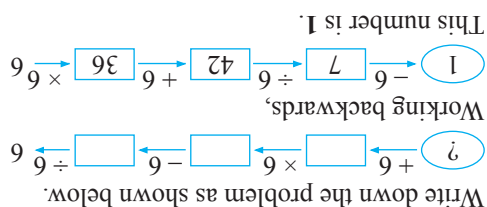
$\square \xleftarrow{\div 3} \square \xleftarrow{+ 4} \square \xleftarrow{\times 4} 14$

(c) $(?) \xrightarrow{\times 2} \square \xrightarrow{+ 4} \square \xrightarrow{\div 5} 6$

Solution:

$\square \xleftarrow{\div 2} \square \xleftarrow{- 4} \square \xleftarrow{\times 5} 6$

2 A number is added to 6. The sum is multiplied by 6. Then 6 is again subtracted from the product. When the difference is divided by 6, the result is still 6. What is this number?



Solutions: