

2) a) (5A, p 29) Problem 5

(a) $63 \div 17$ ESTIMATION $20 \overline{) 60}^3$ (can also do $20 \overline{) 63}^3$)
 The estimated quotient is 3

$$\begin{array}{r} 3 \text{ R } 12 \\ 17 \overline{) 63} \\ \underline{51} \\ 12 \end{array}$$

(d) $76 \div 34$ ESTIMATION $30 \overline{) 70}^2$ (can also do $30 \overline{) 76}^2$)

$$\begin{array}{r} 2 \text{ R } 8 \\ 34 \overline{) 76} \\ \underline{68} \\ 8 \end{array}$$

(g) $149 \div 67$ ESTIMATION $70 \overline{) 150}^2$ (can also do $70 \overline{) 149}^2$)

$$\begin{array}{r} 2 \text{ R } 15 \\ 67 \overline{) 149} \\ \underline{134} \\ 15 \end{array}$$

(j) $668 \div 72$ ESTIMATION $70 \overline{) 670}^9$ (can also do $70 \overline{) 668}^9$)

$$\begin{array}{r} 9 \text{ R } 20 \\ 72 \overline{) 668} \\ \underline{648} \\ 20 \end{array}$$

b) SKILL BEING EMPHASIZED: using ESTIMATION to do division by 2-digit numbers

d) (5A, p 31) Problem 16

(a) $6692 \div 28$ First ESTIMATION $30 \overline{) 70}^2$ (can also do $30 \overline{) 66}^2$)

$$\begin{array}{r} 238 \text{ R } 28 \\ (28) \overline{) 6692} \\ \underline{56} \\ 109 \\ \underline{84} \\ 252 \\ \underline{224} \\ 28 \end{array}$$

Second ESTIMATION $30 \overline{) 110}^3$ (can also do $30 \overline{) 109}^3$)

Third ESTIMATION $30 \overline{) 250}^8$ (can also do $30 \overline{) 252}^8$)

(b) $2409 \div 18$

$$\begin{array}{r} 133 \text{ R}15 \\ 18 \overline{) 2409} \\ \underline{18} \\ 60 \\ \underline{54} \\ 69 \\ \underline{54} \\ 15 \end{array}$$

ESTIMATIONS

$$\begin{array}{r} 1 \\ 20 \overline{) 24} \\ 3 \\ 20 \overline{) 60} \\ 3 \\ 20 \overline{) 70} \end{array}$$

(d) $6008 \div 56$

$$\begin{array}{r} 10\cancel{8} \\ 56 \overline{) 6008} \\ \underline{56} \\ 40 \\ \underline{0} \\ 408 \\ \underline{336} \end{array}$$

* $\rightarrow 72$

NOTICE $72 > 56$
 \uparrow
 divisor

ESTIMATIONS

$$\begin{array}{r} 1 \\ 60 \overline{) 60} \\ 6 \\ 60 \overline{) 408} \end{array}$$

When you try 6,

$$\begin{array}{r} 3 \\ 56 \\ \times 6 \\ \hline 336 \end{array}$$

We didn't do enough. Try 7

$$\begin{array}{r} 4 \\ 56 \\ \times 7 \\ \hline 392 \end{array}$$

$$\begin{array}{r} 107 \text{ R}16 \\ 56 \overline{) 6008} \\ \underline{56} \\ 40 \\ \underline{0} \\ 408 \\ \underline{392} \\ 16 \end{array}$$

4) Tracy needs to put the 7 in the hundreds spot and a 0 in the tens spot, as follows:

$$\begin{array}{r} 705 \text{ R}5 \\ 6 \overline{) 4235} \\ \underline{42} \\ 3 \\ \underline{0} \\ 35 \\ \underline{30} \\ 5 \end{array}$$

Note: Tracy's answer 75 R 5 couldn't be correct since

$$75 \times 6 = 450$$

(no where near 4235)