

**Lesson 5-6**  
**Use Estimation to Place the First Digit of the Quotient**

**Look Back** #MP1 Use Strategies Will the quotient 7,825 ÷ 25 be greater than 100 or less than 100? How do you know?

**Look Back** #MP2 Reasoning Will the quotient 7,825 ÷ 25 be greater than 100 or less than 100? How do you know?

**Look Back** #MP3 Use Strategies Will the quotient 7,825 ÷ 25 be greater than 100 or less than 100? How do you know?

**Look Back** #MP4 Use Operations Will the quotient 7,825 ÷ 25 be greater than 100 or less than 100? How do you know?

**Look Back** #MP5 Use Strategies Will the quotient 7,825 ÷ 25 be greater than 100 or less than 100? How do you know?

**Look Back** #MP6 Use Reasoning Will the quotient 7,825 ÷ 25 be greater than 100 or less than 100? How do you know?

**Look Back** #MP7 Use Strategies Will the quotient 7,825 ÷ 25 be greater than 100 or less than 100? How do you know?

**Look Back** #MP8 Use Reasoning Will the quotient 7,825 ÷ 25 be greater than 100 or less than 100? How do you know?

**Look Back** #MP9 Use Strategies Will the quotient 7,825 ÷ 25 be greater than 100 or less than 100? How do you know?

**Look Back** #MP10 Use Reasoning Will the quotient 7,825 ÷ 25 be greater than 100 or less than 100? How do you know?

Reasoning:  $15 \overline{) 615}$

A.  $615 \div 15$

$15 \times 1 = 15$   
 $15 \times 10 = 150$   
 $15 \times 100 = 1,500$

Quotient between 10 and 100 → Tens

Reasoning

D.  $8,589 \div 21$

$21 \overline{) 8,589}$   
 $21 > 8$   
 $21 < 85 \rightarrow$  Hundreds

Estimation

$80 \overline{) 800} = 100$   
 $77 \overline{) 770} = 10$   
 $72 \overline{) 720} = 10$

When the divisor is rounded up you may get 2 underestimates.  
**Hundreds**

$45 \overline{) 360}$

B.  $360 \div 45$

$45 \times 1 = 45$   
 $45 \times 10 = 450 < 360$

Quotient between 1 and 10: Ones

C.  $4,945 \div 23$

$23 \times 1 = 23$   
 $23 \times 10 = 230$   
 $23 \times 100 = 2,300 < 4,945$   
 $23 \times 1,000 = 23,000$   
 Quotient is between 100 and 1,000: Hundreds

**Lesson 5-6**  
**How Can You Decide Where to Place the First Digit of a Quotient?**

**Look Back** #MP1 Use Strategies Will the quotient 7,825 ÷ 25 be greater than 100 or less than 100? How do you know?

**Look Back** #MP2 Reasoning Will the quotient 7,825 ÷ 25 be greater than 100 or less than 100? How do you know?

**Look Back** #MP3 Use Strategies Will the quotient 7,825 ÷ 25 be greater than 100 or less than 100? How do you know?

**Look Back** #MP4 Use Operations Will the quotient 7,825 ÷ 25 be greater than 100 or less than 100? How do you know?

**Look Back** #MP5 Use Strategies Will the quotient 7,825 ÷ 25 be greater than 100 or less than 100? How do you know?

**Look Back** #MP6 Use Reasoning Will the quotient 7,825 ÷ 25 be greater than 100 or less than 100? How do you know?

**Look Back** #MP7 Use Strategies Will the quotient 7,825 ÷ 25 be greater than 100 or less than 100? How do you know?

**Look Back** #MP8 Use Reasoning Will the quotient 7,825 ÷ 25 be greater than 100 or less than 100? How do you know?

**Look Back** #MP9 Use Strategies Will the quotient 7,825 ÷ 25 be greater than 100 or less than 100? How do you know?

**Look Back** #MP10 Use Reasoning Will the quotient 7,825 ÷ 25 be greater than 100 or less than 100? How do you know?

E.  $4,674 \div 82$

$82 \overline{) 4,674}$   
 $82 > 4$   
 $82 > 46$   
 $82 < 467$  Tens

F.  $8,827 \div 91$

$91 \overline{) 8,827}$   
 $91 > 8$   
 $91 > 88$   
 $91 < 882$  Tens

**Convince Me!** #MP2 Reasoning Can Jake make at least 100 bouquets for the fundraiser? Explain.

Jake can make 100 bouquets because  $12 \times 100$  is 1,200 and 1,200 > 1,150.

Jake cannot make 100 bouquets because  $12 \times 1,000$  is 12,000 and 12,000 > 2,500.

**Another Example**

Where should you place the first digit of the quotient  $4,194 \div 87$ ?

Since 4 is less than 80 and 4,194 is between 400 and 4,000, the quotient is between 10 and 100.

The quotient is in the tens, so place the first digit in the tens place.

**Guided Practice**

1. In which place should you write the first digit of the quotient  $5,710 \div 38$ ? Complete the following to help you decide.

$38 \times 10 = 380$   
 $38 \times 100 = 3,800$   
 $38 \times 1,000 = 38,000$

$100 - 1,000$ : Hundreds  
 $10 - 100$ : Tens

Complete #9, 10, 19, 20

**Independent Practice**

6.  $16 \overline{) 144}$  7.  $30 \overline{) 375}$  8.  $24 \overline{) 216}$

9.  $7 \overline{) 56}$  10.  $12 \overline{) 96}$  11.  $15 \overline{) 120}$  12.  $18 \overline{) 144}$  13.  $21 \overline{) 168}$  14.  $24 \overline{) 192}$  15.  $27 \overline{) 216}$  16.  $30 \overline{) 240}$  17.  $36 \overline{) 324}$  18.  $42 \overline{) 378}$  19.  $48 \overline{) 432}$  20.  $54 \overline{) 486}$  21.  $60 \overline{) 540}$  22.  $66 \overline{) 594}$  23.  $72 \overline{) 648}$  24.  $78 \overline{) 702}$  25.  $84 \overline{) 756}$  26.  $90 \overline{) 810}$  27.  $96 \overline{) 864}$  28.  $102 \overline{) 918}$  29.  $108 \overline{) 972}$  30.  $114 \overline{) 1,026}$  31.  $120 \overline{) 1,080}$  32.  $126 \overline{) 1,134}$  33.  $132 \overline{) 1,188}$  34.  $138 \overline{) 1,242}$  35.  $144 \overline{) 1,296}$  36.  $150 \overline{) 1,350}$  37.  $156 \overline{) 1,404}$  38.  $162 \overline{) 1,458}$  39.  $168 \overline{) 1,512}$  40.  $174 \overline{) 1,566}$  41.  $180 \overline{) 1,620}$  42.  $186 \overline{) 1,674}$  43.  $192 \overline{) 1,728}$  44.  $198 \overline{) 1,782}$  45.  $204 \overline{) 1,836}$  46.  $210 \overline{) 1,890}$  47.  $216 \overline{) 1,944}$  48.  $222 \overline{) 1,998}$  49.  $228 \overline{) 2,052}$  50.  $234 \overline{) 2,106}$  51.  $240 \overline{) 2,160}$  52.  $246 \overline{) 2,214}$  53.  $252 \overline{) 2,268}$  54.  $258 \overline{) 2,322}$  55.  $264 \overline{) 2,376}$  56.  $270 \overline{) 2,430}$  57.  $276 \overline{) 2,484}$  58.  $282 \overline{) 2,538}$  59.  $288 \overline{) 2,592}$  60.  $294 \overline{) 2,646}$  61.  $300 \overline{) 2,700}$  62.  $306 \overline{) 2,754}$  63.  $312 \overline{) 2,808}$  64.  $318 \overline{) 2,862}$  65.  $324 \overline{) 2,916}$  66.  $330 \overline{) 2,970}$  67.  $336 \overline{) 3,024}$  68.  $342 \overline{) 3,078}$  69.  $348 \overline{) 3,132}$  70.  $354 \overline{) 3,186}$  71.  $360 \overline{) 3,240}$  72.  $366 \overline{) 3,294}$  73.  $372 \overline{) 3,348}$  74.  $378 \overline{) 3,402}$  75.  $384 \overline{) 3,456}$  76.  $390 \overline{) 3,510}$  77.  $396 \overline{) 3,564}$  78.  $402 \overline{) 3,618}$  79.  $408 \overline{) 3,672}$  80.  $414 \overline{) 3,726}$  81.  $420 \overline{) 3,780}$  82.  $426 \overline{) 3,834}$  83.  $432 \overline{) 3,888}$  84.  $438 \overline{) 3,942}$  85.  $444 \overline{) 3,996}$  86.  $450 \overline{) 4,050}$  87.  $456 \overline{) 4,104}$  88.  $462 \overline{) 4,158}$  89.  $468 \overline{) 4,212}$  90.  $474 \overline{) 4,266}$  91.  $480 \overline{) 4,320}$  92.  $486 \overline{) 4,374}$  93.  $492 \overline{) 4,428}$  94.  $498 \overline{) 4,482}$  95.  $504 \overline{) 4,536}$  96.  $510 \overline{) 4,590}$  97.  $516 \overline{) 4,644}$  98.  $522 \overline{) 4,698}$  99.  $528 \overline{) 4,752}$  100.  $534 \overline{) 4,806}$  101.  $540 \overline{) 4,860}$  102.  $546 \overline{) 4,914}$  103.  $552 \overline{) 4,968}$  104.  $558 \overline{) 5,022}$  105.  $564 \overline{) 5,076}$  106.  $570 \overline{) 5,130}$  107.  $576 \overline{) 5,184}$  108.  $582 \overline{) 5,238}$  109.  $588 \overline{) 5,292}$  110.  $594 \overline{) 5,346}$  111.  $600 \overline{) 5,400}$  112.  $606 \overline{) 5,454}$  113.  $612 \overline{) 5,508}$  114.  $618 \overline{) 5,562}$  115.  $624 \overline{) 5,616}$  116.  $630 \overline{) 5,670}$  117.  $636 \overline{) 5,724}$  118.  $642 \overline{) 5,778}$  119.  $648 \overline{) 5,832}$  120.  $654 \overline{) 5,886}$  121.  $660 \overline{) 5,940}$  122.  $666 \overline{) 5,994}$  123.  $672 \overline{) 6,048}$  124.  $678 \overline{) 6,102}$  125.  $684 \overline{) 6,156}$  126.  $690 \overline{) 6,210}$  127.  $696 \overline{) 6,264}$  128.  $702 \overline{) 6,318}$  129.  $708 \overline{) 6,372}$  130.  $714 \overline{) 6,426}$  131.  $720 \overline{) 6,480}$  132.  $726 \overline{) 6,534}$  133.  $732 \overline{) 6,588}$  134.  $738 \overline{) 6,642}$  135.  $744 \overline{) 6,696}$  136.  $750 \overline{) 6,750}$  137.  $756 \overline{) 6,804}$  138.  $762 \overline{) 6,858}$  139.  $768 \overline{) 6,912}$  140.  $774 \overline{) 6,966}$  141.  $780 \overline{) 7,020}$  142.  $786 \overline{) 7,074}$  143.  $792 \overline{) 7,128}$  144.  $798 \overline{) 7,182}$  145.  $804 \overline{) 7,236}$  146.  $810 \overline{) 7,290}$  147.  $816 \overline{) 7,344}$  148.  $822 \overline{) 7,398}$  149.  $828 \overline{) 7,452}$  150.  $834 \overline{) 7,506}$  151.  $840 \overline{) 7,560}$  152.  $846 \overline{) 7,614}$  153.  $852 \overline{) 7,668}$  154.  $858 \overline{) 7,722}$  155.  $864 \overline{) 7,776}$  156.  $870 \overline{) 7,830}$  157.  $876 \overline{) 7,884}$  158.  $882 \overline{) 7,938}$  159.  $888 \overline{) 7,992}$  160.  $894 \overline{) 8,046}$  161.  $900 \overline{) 8,100}$  162.  $906 \overline{) 8,154}$  163.  $912 \overline{) 8,208}$  164.  $918 \overline{) 8,262}$  165.  $924 \overline{) 8,316}$  166.  $930 \overline{) 8,370}$  167.  $936 \overline{) 8,424}$  168.  $942 \overline{) 8,478}$  169.  $948 \overline{) 8,532}$  170.  $954 \overline{) 8,586}$  171.  $960 \overline{) 8,640}$  172.  $966 \overline{) 8,694}$  173.  $972 \overline{) 8,748}$  174.  $978 \overline{) 8,802}$  175.  $984 \overline{) 8,856}$  176.  $990 \overline{) 8,910}$  177.  $996 \overline{) 8,964}$  178.  $1,002 \overline{) 9,018}$  179.  $1,008 \overline{) 9,072}$  180.  $1,014 \overline{) 9,126}$  181.  $1,020 \overline{) 9,180}$  182.  $1,026 \overline{) 9,234}$  183.  $1,032 \overline{) 9,288}$  184.  $1,038 \overline{) 9,342}$  185.  $1,044 \overline{) 9,396}$  186.  $1,050 \overline{) 9,450}$  187.  $1,056 \overline{) 9,504}$  188.  $1,062 \overline{) 9,558}$  189.  $1,068 \overline{) 9,612}$  190.  $1,074 \overline{) 9,666}$  191.  $1,080 \overline{) 9,720}$  192.  $1,086 \overline{) 9,774}$  193.  $1,092 \overline{) 9,828}$  194.  $1,098 \overline{) 9,882}$  195.  $1,104 \overline{) 9,936}$  196.  $1,110 \overline{) 9,990}$  197.  $1,116 \overline{) 10,044}$  198.  $1,122 \overline{) 10,098}$  199.  $1,128 \overline{) 10,152}$  200.  $1,134 \overline{) 10,206}$  201.  $1,140 \overline{) 10,260}$  202.  $1,146 \overline{) 10,314}$  203.  $1,152 \overline{) 10,368}$  204.  $1,158 \overline{) 10,422}$  205.  $1,164 \overline{) 10,476}$  206.  $1,170 \overline{) 10,530}$  207.  $1,176 \overline{) 10,584}$  208.  $1,182 \overline{) 10,638}$  209.  $1,188 \overline{) 10,692}$  210.  $1,194 \overline{) 10,746}$  211.  $1,200 \overline{) 10,800}$  212.  $1,206 \overline{) 10,854}$  213.  $1,212 \overline{) 10,908}$  214.  $1,218 \overline{) 10,962}$  215.  $1,224 \overline{) 11,016}$  216.  $1,230 \overline{) 11,070}$  217.  $1,236 \overline{) 11,124}$  218.  $1,242 \overline{) 11,178}$  219.  $1,248 \overline{) 11,232}$  220.  $1,254 \overline{) 11,286}$  221.  $1,260 \overline{) 11,340}$  222.  $1,266 \overline{) 11,394}$  223.  $1,272 \overline{) 11,448}$  224.  $1,278 \overline{) 11,502}$  225.  $1,284 \overline{) 11,556}$  226.  $1,290 \overline{) 11,610}$  227.  $1,296 \overline{) 11,664}$  228.  $1,302 \overline{) 11,718}$  229.  $1,308 \overline{) 11,772}$  230.  $1,314 \overline{) 11,826}$  231.  $1,320 \overline{) 11,880}$  232.  $1,326 \overline{) 11,934}$  233.  $1,332 \overline{) 11,988}$  234.  $1,338 \overline{) 12,042}$  235.  $1,344 \overline{) 12,096}$  236.  $1,350 \overline{) 12,150}$  237.  $1,356 \overline{) 12,204}$  238.  $1,362 \overline{) 12,258}$  239.  $1,368 \overline{) 12,312}$  240.  $1,374 \overline{) 12,366}$  241.  $1,380 \overline{) 12,420}$  242.  $1,386 \overline{) 12,474}$  243.  $1,392 \overline{) 12,528}$  244.  $1,398 \overline{) 12,582}$  245.  $1,404 \overline{) 12,636}$  246.  $1,410 \overline{) 12,690}$  247.  $1,416 \overline{) 12,744}$  248.  $1,422 \overline{) 12,798}$  249.  $1,428 \overline{) 12,852}$  250.  $1,434 \overline{) 12,906}$  251.  $1,440 \overline{) 12,960}$  252.  $1,446 \overline{) 13,014}$  253.  $1,452 \overline{) 13,068}$  254.  $1,458 \overline{) 13,122}$  255.  $1,464 \overline{) 13,176}$  256.  $1,470 \overline{) 13,230}$  257.  $1,476 \overline{) 13,284}$  258.  $1,482 \overline{) 13,338}$  259.  $1,488 \overline{) 13,392}$  260.  $1,494 \overline{) 13,446}$  261.  $1,500 \overline{) 13,500}$  262.  $1,506 \overline{) 13,554}$  263.  $1,512 \overline{) 13,608}$  264.  $1,518 \overline{) 13,662}$  265.  $1,524 \overline{) 13,716}$  266.  $1,530 \overline{) 13,770}$  267.  $1,536 \overline{) 13,824}$  268.  $1,542 \overline{) 13,878}$  269.  $1,548 \overline{) 13,932}$  270.  $1,554 \overline{) 13,986}$  271.  $1,560 \overline{) 14,040}$  272.  $1,566 \overline{) 14,094}$  273.  $1,572 \overline{) 14,148}$  274.  $1,578 \overline{) 14,202}$  275.  $1,584 \overline{) 14,256}$  276.  $1,590 \overline{) 14,310}$  277.  $1,596 \overline{) 14,364}$  278.  $1,602 \overline{) 14,418}$  279.  $1,608 \overline{) 14,472}$  280.  $1,614 \overline{) 14,526}$  281.  $1,620 \overline{) 14,580}$  282.  $1,626 \overline{) 14,634}$  283.  $1,632 \overline{) 14,688}$  284.  $1,638 \overline{) 14,742}$  285.  $1,644 \overline{) 14,796}$  286.  $1,650 \overline{) 14,850}$  287.  $1,656 \overline{) 14,904}$  288.  $1,662 \overline{) 14,958}$  289.  $1,668 \overline{) 15,012}$  290.  $1,674 \overline{) 15,066}$  291.  $1,680 \overline{) 15,120}$  292.  $1,686 \overline{) 15,174}$  293.  $1,692 \overline{) 15,228}$  294.  $1,698 \overline{) 15,282}$  295.  $1,704 \overline{) 15,336}$  296.  $1,710 \overline{) 15,390}$  297.  $1,716 \overline{) 15,444}$  298.  $1,722 \overline{) 15,498}$  299.  $1,728 \overline{) 15,552}$  300.  $1,734 \overline{) 15,606}$  301.  $1,740 \overline{) 15,660}$  302.  $1,746 \overline{) 15,714}$  303.  $1,752 \overline{) 15,768}$  304.  $1,758 \overline{) 15,822}$  305.  $1,764 \overline{) 15,876}$  306.  $1,770 \overline{) 15,930}$  307.  $1,776 \overline{) 15,984}$  308.  $1,782 \overline{) 16,038}$  309.  $1,788 \overline{) 16,092}$  310.  $1,794 \overline{) 16,146}$  311.  $1,800 \overline{) 16,200}$  312.  $1,806 \overline{) 16,254}$  313.  $1,812 \overline{) 16,308}$  314.  $1,818 \overline{) 16,362}$  315.  $1,824 \overline{) 16,416}$  316.  $1,830 \overline{) 16,470}$  317.  $1,836 \overline{) 16,524}$  318.  $1,842 \overline{) 16,578}$  319.  $1,848 \overline{) 16,632}$  320.  $1,854 \overline{) 16,686}$  321.  $1,860 \overline{) 16,740}$  322.  $1,866 \overline{) 16,794}$  323.  $1,872 \overline{) 16,848}$  324.  $1,878 \overline{) 16,902}$  325.  $1,884 \overline{) 16,956}$  326.  $1,890 \overline{) 17,010}$  327.  $1,896 \overline{) 17,064}$  328.  $1,902 \overline{) 17,118}$  329.  $1,908 \overline{) 17,172}$  330.  $1,914 \overline{) 17,226}$  331.  $1,920 \overline{) 17,280}$  332.  $1,926 \overline{) 17,334}$  333.  $1,932 \overline{) 17,388}$  334.  $1,938 \overline{) 17,442}$  335.  $1,944 \overline{) 17,496}$  336.  $1,950 \overline{) 17,550}$  337.  $1,956 \overline{) 17,604}$  338.  $1,962 \overline{) 17,658}$  339.  $1,968 \overline{) 17,712}$  340.  $1,974 \overline{) 17,766}$  341.  $1,980 \overline{) 17,820}$  342.  $1,986 \overline{) 17,874}$  343.  $1,992 \overline{) 17,928}$  344.  $1,998 \overline{) 17,982}$  345.  $2,004 \overline{) 18,036}$  346.  $2,010 \overline{) 18,090}$  347.  $2,016 \overline{) 18,144}$  348.  $2,022 \overline{) 18,198}$  349.  $2,028 \overline{) 18,252}$  350.  $2,034 \overline{) 18,306}$  351.  $2,040 \overline{) 18,360}$  352.  $2,046 \overline{) 18,414}$  353.  $2,052 \overline{) 18,468}$  354.  $2,058 \overline{) 18,522}$  355.  $2,064 \overline{) 18,576}$  356.  $2,070 \overline{) 18,6$