

# Set A4 ★ Independent Worksheet 1



## INDEPENDENT WORKSHEET

### Using Compatible Numbers

Some people estimate answers to multiplication and division problems by using compatible numbers. Compatible numbers are numbers that make it easier to estimate the answer to a problem.

**example a** A page has 11 words in one line and 28 lines on the page. *About* how many words on the whole page? If you don't need an exact answer, you can estimate what  $11 \times 28$  is by using compatible numbers.

11 is close to 10

28 is close to 30

$10 \times 30 = 300$ , so the page has about 300 words.

**example b** 10 kids want to share 97 marbles equally. About how many marbles will they each get? If you don't need an exact answer, you can estimate by using compatible numbers.

97 is close to 100.

10 is already a friendly number. You don't have to change both numbers.

$100 \div 10 = 10$ , so they'll each get about 10 marbles.

**1a** Choose a chapter book from your classroom. Turn to a page in the middle of the book. *About* how many words do you think there are on the page? To find out, count the number of words in one line. Next, count the number of lines on the page. Record the information:

Words in one line: \_\_\_\_\_

Lines on the page: \_\_\_\_\_

**1b** Use compatible numbers to estimate the number of words on the page. Show your work.

**2** The 4th grade is taking a field trip to the zoo. There are 86 students. The bus company plans to use 3 buses. Estimate how many students will ride in each bus. Use compatible numbers to help you. Show your work.

**3** Estimate the answers to the following division problems. Use compatible numbers to help you. Show your work. The first one is done for you.

<p><b>example</b> <math>89 \div 10</math></p> <p><i>89 is close to 90.</i>  <math>90 \div 10 = 9</math>, so the answer is about 9.</p>	<p><b>a</b> <math>25 \div 4</math></p>
<p><b>b</b> <math>39 \div 4</math></p>	<p><b>c</b> <math>48 \div 10</math></p>



**CHALLENGE**

**4** Use compatible numbers to estimate the answer to  $24 \times 21$ . Use a calculator to check your answer. How close was your estimate?

## Set A4 ★ Independent Worksheet 2



### INDEPENDENT WORKSHEET

#### More Compatible Numbers

1 Which 2 numbers in the box could you multiply to come closest to 420? Show your thinking.

<b>39   47   5   11   62   87   26</b>
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2 Estimate the answers to the following multiplication problems. Use compatible numbers to help you. Show your work.

<p><b>example</b> <math>19 \times 6 =</math></p> <p><i>19 is close to 20 6 is close to 5 <math>20 \times 5 = 100</math> My estimate is 100</i></p>	<p><b>a</b>    <math>39</math>       <math>\times 12</math></p>	<p><b>b</b>    <math>84 \times 9 =</math></p>
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3 Estimate the answers to the following division problems. Use compatible numbers to help you. Show your work.

**a** About how much does each can of soda cost if a 6-pack costs \$1.19?

**b** Abbie and her 3 friends want to split a bag of 72 peanuts equally. About how many peanuts will each of the 4 children get?



**CHALLENGE**

**4** Estimate  $726 \div 11$ . Record and explain your estimate. Use a calculator to check your answer. How close was your estimate?

# Set A4 ★ Independent Worksheet 3



## INDEPENDENT WORKSHEET

### Reasonable Estimates

**1** Circle the answer that gives a reasonable estimate for each problem. (Hint: try using compatible numbers to help.) To the right of the problem, use words, numbers and/or pictures to explain why you think it is a reasonable estimate. The first one is done for you.

<p><b>example</b>     <math>16</math>                   <math>\times 4</math></p> <p>32            <math>16</math> is close to <math>15</math></p> <p><u>60</u>           <math>15 \times 2 = 30</math>, so <math>15 \times 4 = 60</math>.</p> <p>94            <math>60</math> is the closest estimate</p> <p>104</p>	<p><b>a</b>     <math>23</math>           <math>\times 5</math></p> <p>75</p> <p>95</p> <p>120</p> <p>175</p>
<p><b>b</b>     <math>26</math>        <math>\times 3</math></p> <p>50</p> <p>75</p> <p>100</p> <p>125</p>	<p><b>c</b>     <math>206 \div 10 =</math></p> <p>10</p> <p>20</p> <p>30</p> <p>120</p>

<b>d</b> $74 \div 7 =$	<b>e</b> $101 \div 9 =$
10	7
12	8
15	9
20	10

**2** Randy has \$7.00. Basketball trading cards cost \$0.49 each. He estimates that he will be able to buy about 19 cards with his money. Is this a reasonable estimate? Use words, numbers and/or pictures to explain your answer.