Some Exercises in Rounding

D. P. Story

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1. Round to nearest Tenths

How do you round to the nearest tenths? Follow the steps outlined below.

1. First find the tenths digit. This the first digit after the decimal place.

$$2.\underset{\uparrow}{2}41 \qquad \text{(Ex 1)} \qquad\Big| \qquad 4.\underset{\uparrow}{5}67 \qquad \text{(Ex 2)}$$

The tenths digit is shown using the blue arrow.

2. Now, find the *next digit to the right.*

$$2.\underset{\uparrow\uparrow}{24}1 \qquad \text{(Ex 1)} \qquad\Big| \qquad 4.\underset{\uparrow\uparrow}{56}7 \qquad \text{(Ex 2)}$$

The next digit is shown using the red arrow.

3. We round up or down depending on the value of the next digit.

    (a) If the next digit is less than 5, **round down**. To round down, remove all digits beginning at the next digit. In **Ex 1**, the number 2.241 rounded to the nearest tenths is 2.2.

   (b) If the next digit is greater than or equal to 5, **round up**.
       To round up, remove all digits beginning at the next digit,
       and add 1 to the tenths digit. In **Ex 2**, the number 4.567
       rounded to the nearest tenths is 4.6.

Here are two more examples.

Example 1. Round each of the two numbers to the nearest tenths.

(a) 235.233

   Solution: First find the tenths digit, 235.233. Now find the next
   digit to the right, 235.233, the next digit is a 3, which is *less than*
   5, so we **round down**. The answer $\boxed{235.2}$ □

(b) 45.581

   Solution: First find the tenths digit, 45.581. Now find the next
   digit to the right, 45.581, the next digit is an 8, which is *greater*
   than 5, so we **round up**. The answer $\boxed{45.6}$ □

Instructions. To begin the quiz, click on the "Begin" button. Enter your answer on the line provided. When finished, click on the "End" button to get your score. Click on the "Correct" button to get the corrections. A green underline means your answer is correct, and red underline means your answer is wrong. Click on the "Ans" button to see the correct answer.

Round each to the nearest tenths.

1. 2.67

2. 7.23

3. 9.457

4. 12.59

5. 17.232

Answers:

Instructions. To begin the quiz, click on the "Begin" button. Enter your answer on the line provided. When finished, click on the "End" button to get your score. Click on the "Correct" button to get the corrections. A green underline means your answer is correct, and red underline means your answer is wrong. Click on the "Ans" button to see the correct answer.

Round each to the nearest tenths.

1. 5.36

2. 2.13

3. 12.727

4. 17.57

5. 8.151

Answers:

2. Round to nearest Hundredths

How do you round to the nearest hundredths? Follow the steps outlined below.

1. First find the hundredths digit, the second digit after the decimal place.

$$2.2\underset{\uparrow}{4}1 \qquad \text{(Ex 1)} \qquad\qquad 4.5\underset{\uparrow}{6}7 \qquad \text{(Ex 2)}$$

   The hundredths digit is shown using the blue arrow.

2. Now, find the *next digit to the right*.

$$2.2\underset{\uparrow\uparrow}{41} \qquad \text{(Ex 1)} \qquad\qquad 4.5\underset{\uparrow\uparrow}{67} \qquad \text{(Ex 2)}$$

   The next digit is shown using the red arrow.

3. We round up or down depending on the value of the next digit.

   (a) If the next digit is less than 5, **round down**. To round down, remove all digits beginning at the next digit. In **Ex 1**, the number 2.241 rounded to the nearest hundredths is 2.24.

(b) If the next digit is greater than or equal to 5, **round up**. To round up, remove all digits beginning at the next digit, and add 1 to the hundredths digit. In **Ex 2**, the number 4.567 rounded to the nearest hundredths is 4.56.

Example 2. Round each of the two numbers to the nearest hundredths.

(a) 17.2363

Solution: First find the hundredths digit, 17.2363. Now find the next digit to the right, 17.2363, the next digit is a 6, which is *greater than* 5, so we **round up**. Remove all digits beginning with the next digit and increase the hundredths digit by one. The answer $\boxed{17.24}$ □

(b) 54.581

Solution: Find the hundredths digit, 54.581. Now find the next digit to the right, 54.581, a 1, which is *less than* 5, so we **round down**. The answer $\boxed{17.58}$ □

Instructions. To begin the quiz, click on the "Begin" button. Enter your answer on the line provided. When finished, click on the "End" button to get your score. Click on the "Correct" button to get the corrections. A green underline means your answer is correct, and red underline means your answer is wrong. Click on the "Ans" button to see the correct answer.

Round each of the following to the nearest hundredths.

1. 5.347

2. 12.423

3. 39.216

4. 12.323

5. 17.237

Answers:

Instructions. To begin the quiz, click on the "Begin" button. Enter your answer on the line provided. When finished, click on the "End" button to get your score. Click on the "Correct" button to get the corrections. A green underline means your answer is correct, and red underline means your answer is wrong. Click on the "Ans" button to see the correct answer.

Round each of the following to the nearest hundredths.

1. 1.325

2. 6.242

3. 9.2344

4. 2.3263

5. 0.136

Answers:

3. Round to nearest Whole Number

How do you round to the nearest whole number? This is also called rounding to the nearest units. Follow the steps outlined below.

1. First find the units digit, the first digit before the decimal place.

$$\underset{\uparrow}{2}.241 \qquad \text{(Ex 1)} \qquad\qquad 4.\underset{\uparrow}{5}67 \qquad \text{(Ex 2)}$$

   The units digit is shown using the blue arrow.

2. Now, find the *next digit to the right*.

$$\underset{\uparrow\ \uparrow}{2.2}41 \qquad \text{(Ex 1)} \qquad\qquad 4.\underset{\uparrow\ \uparrow}{56}7 \qquad \text{(Ex 2)}$$

   The next digit is shown using the red arrow.

3. We round up or down depending on the value of the next digit.

   (a) If the next digit is less than 5, **round down**. To round down, remove all digits beginning at the next digit. In **Ex 1**, the number 2.241 rounded to the nearest units (or whole number) is 2.

   (b) If the next digit is greater than or equal to 5, **round up**. To round up, remove all digits beginning at the next digit,

and add 1 to the units digit. In **Ex 2**, the number 4.567 rounded to the nearest units (whole number) is 5.

Example 3. Round each of the two numbers to the nearest whole number (units).

(a) 17.2363

Solution: First find the units digit, 17.2363. Now find the next digit to the right, 17.2363, the next digit is a 2, which is *less than* 5, so we **round down**. The answer $\boxed{17}$. □

(b) 54.581

Solution: First find the units digit, 54.581. Now find the next digit to the right, 54.581, the next digit is an 5, which is *greater than* 5, so we **round up**. The answer $\boxed{55}$. □

Instructions. To begin the quiz, click on the "Begin" button. Enter your answer on the line provided. When finished, click on the "End" button to get your score. Click on the "Correct" button to get the corrections. A green underline means your answer is correct, and red underline means your answer is wrong. Click on the "Ans" button to see the correct answer.

Round each to the whole number.

1. 2.67

2. 7.23

3. 9.457

4. 12.59

5. 17.232

Answers:

4. Round to nearest Tens

How do you round to the nearest tens? Follow the steps outlined below.

1. First find the tens digit, the second digit before the decimal place.

   $$62.24 \qquad \text{(Ex 1)} \qquad\qquad 27.56 \qquad \text{(Ex 2)}$$

   The tens digit is shown using the blue arrow.

2. Now, find the *next digit to the right.*

   $$62.24 \qquad \text{(Ex 1)} \qquad\qquad 27.56 \qquad \text{(Ex 2)}$$

   The next digit is shown using the red arrow.

3. We round up or down depending on the value of the next digit.

   (a) If the next digit is less than 5, **round down**. To round down, remove all digits beginning at the next digit. In **Ex 1**, the number 62.24 rounded to the nearest tens place is 60.

(b) If the next digit is greater than or equal to 5, **round up**. To round up, remove all digits beginning at the next digit, and add 1 to the tens digit. In **Ex 2**, the number 27.56 rounded to the nearest tens place is 30.

Example 4. Round each of the two numbers to the nearest tens.

(a) 17.2363

Solution: First find the tens digit, 17.2363. Now find the next digit to the right, 17.2363, the next digit is a 7, which is *greater than* 5, so we **round up**. The answer is 20 .   □

(b) 54.581

Solution: First find the tens digit, 54.581. Now find the next digit to the right, 54.581, the next digit is an 4, which is *less than* 5, so we **round down**. The answer is 50 .   □

Instructions. To begin the quiz, click on the "Begin" button. Enter your answer on the line provided. When finished, click on the "End" button to get your score. Click on the "Correct" button to get the corrections. A green underline means your answer is correct, and red underline means your answer is wrong. Click on the "Ans" button to see the correct answer.

Round each of the following to the nearest tens.

1. 122.67

2. 321.8

3. 36.2

4. 56.49

5. 12.801

Answers:

5. Round to nearest Hundreds

How do you round to the nearest hundreds? Follow the steps outlined
below.

1. First find the hundreds digit, the third digit before the decimal
   place.

   $$\underset{\uparrow}{6}42.24 \qquad \text{(Ex 1)} \quad \Big| \qquad \underset{\uparrow}{2}72.56 \qquad \text{(Ex 2)}$$

   The hundreds digit is shown using the blue arrow.

2. Now, find the *next digit to the right.*

   $$\underset{\uparrow\uparrow}{64}2.24 \qquad \text{(Ex 1)} \quad \Big| \qquad \underset{\uparrow\uparrow}{27}2.56 \qquad \text{(Ex 2)}$$

   The next digit is shown using the red arrow.

3. We round up or down depending on the value of the next digit.

   (a) If the next digit is less than 5, **round down**. To round
       down, remove all digits beginning at the next digit. In
       Ex 1, the number 642.24 rounded to the nearest hundreds
       place is 600.

    (b) If the next digit is greater than or equal to 5, **round up**. To round up, remove all digits beginning at the next digit, and add 1 to the hundreds digit. In **Ex 2**, the number 272.56 rounded to the nearest hundreds place is 300.

Example 5. Round each of the two numbers to the nearest hundreds.

(a) 717.23

    Solution: First find the hundreds digit, 717.23. Now find the next digit to the right, 717.23, the next digit is a 1, which is *less than* 5, so we **round down**. The answer is $\boxed{700}$.   □

(b) 254.58

    Solution: First find the hundreds digit, 254.58. Now find the next digit to the right, 254.58, the next digit is an 5, which is *greater than or equal to* 5, so we **round up**. The answer is $\boxed{300}$.   □

Instructions. To begin the quiz, click on the "Begin" button. Enter your answer on the line provided. When finished, click on the "End" button to get your score. Click on the "Correct" button to get the corrections. A green underline means your answer is correct, and red underline means your answer is wrong. Click on the "Ans" button to see the correct answer.

Round each of the following to the nearest hundreds.

1. 2382.1

2. 312.645

3. 34.1

4. 4371

5. 2106.2

Answers:

6. Round to nearest Thousands

How do you round to the nearest thousands? Follow the steps outlined below.

1. First find the thousands place, the fourth digit before the decimal place.

   $$6242.24 \qquad (\text{Ex 1}) \qquad \Big| \qquad 2721.56 \qquad (\text{Ex 2})$$
   ↑ ↑

   The thousands digit is shown using the blue arrow.

2. Now, find the *next digit to the right*.

   $$6242.24 \qquad (\text{Ex 1}) \qquad \Big| \qquad 2721.56 \qquad (\text{Ex 2})$$
   ↑↑ ↑↑

   The next digit is shown using the red arrow.

3. We round up or down depending on the value of the next digit.

   (a) If the next digit is less than 5, **round down**. To round down, remove all digits beginning at the next digit. In **Ex 1**, the number 6242.24 rounded to the nearest thousands place is 6000.

(b) If the next digit is greater than or equal to 5, **round up**. To round up, remove all digits beginning at the next digit, and add 1 to the thousands digit. In **Ex 2**, the number 2721.56 rounded to the nearest thousands place is 3000.

Example 6. Round each of the two numbers to the nearest thousands.

(a) 1717.23

Solution: First find the thousands digit, 1717.23. Now find the next digit to the right, 1717.23, the next digit is a 7, which is *greater than* 5, so we **round up**. The answer is $\boxed{2000}$.   □

(b) 8254.58

Solution: First find the thousands digit, 8254.58. Now find the next digit to the right, 8254.58, the next digit is a 2, which is *less than* 5, so we **round down**. The answer is $\boxed{8000}$.   □

Instructions. To begin the quiz, click on the "Begin" button. Enter your answer on the line provided. When finished, click on the "End" button to get your score. Click on the "Correct" button to get the corrections. A green underline means your answer is correct, and red underline means your answer is wrong. Click on the "Ans" button to see the correct answer.

Round each of the following to the nearest thousands.

1. $12,382.1$

2. $53,812.645$

3. 99

4. $6,821$

5. 2106.2

Answers:

7. Round to nearest Ten Thousands

How do you round to the nearest ten thousands? Follow the steps outlined below.

1. First find the ten thousands place, the fifth digit before the decimal place.

$$62{,}429 \qquad \text{(Ex 1)} \qquad\qquad 27{,}213 \qquad \text{(Ex 2)}$$

   The ten thousands digit is shown using the blue arrow.

2. Now, find the *next digit to the right*.

$$62{,}429 \qquad \text{(Ex 1)} \qquad\qquad 27{,}213 \qquad \text{(Ex 2)}$$

   The next digit is shown using the red arrow.

3. We round up or down depending on the value of the next digit.
   (a) If the next digit is less than 5, **round down**. To round down, remove all digits beginning at the next digit. In **Ex 1**, the number 62,429 rounded (down) to the nearest thousands place is 60,000.

(b) If the next digit is greater than or equal to 5, **round up**. To round up, remove all digits beginning at the next digit, and add 1 to the ten tousands digit. In **Ex 2**, the number 27,213 rounded to the nearest thousands place is 30,000.

Example 7. Round each of the two numbers to the nearest ten thousands.

(a) 51,717.2

Solution: First find the ten thousands digit, 51,717.2. Now find the next digit to the right, 51,717.2, the next digit is a 1, which is *less than* 5, so we **round down**. The answer is $\boxed{50,000}$.   □

(b) 38,254

Solution: First find the thousands digit, 38,254. Now find the next digit to the right, 38,254, the next digit is a 8, which is *greater than* 5, so we **round up**. The answer is $\boxed{40,000}$.   □

Instructions. To begin the quiz, click on the "Begin" button. Enter your answer on the line provided. When finished, click on the "End" button to get your score. Click on the "Correct" button to get the corrections. A green underline means your answer is correct, and red underline means your answer is wrong. Click on the "Ans" button to see the correct answer.

Round each of the following to the nearest ten thousands.

1. $123,234.32$

2. $17,323$

3. $14,140.1$

4. $158,923.8$

5. $1,998$

Answers: