

### 3-3 Rounding Decimals - Practice and Problem Solving

**Round each decimal to the indicated place-value position.**

9. 7.445; tenths

7.445 rounded to the nearest tenth is 7.4.

11. 5.68; ones

5.68 rounded to the nearest whole number is 6.

13. 2.499; hundredths

2.499 rounded to the nearest hundredth is 2.50.

15. 5.4572; thousandths

5.4572 rounded to the nearest thousandth is 5.457.

17. **RACING** The winner of the 2007 Indianapolis 500, Dario Franchitti, had an average speed of 151.774 miles per hour. Round 151.774 miles per hour to the nearest ten miles per hour.

151.774 miles rounded to the nearest ten miles per hour is 150 mph.

19. **MONEY MATTERS** The price of a 12 pack of soda is \$4.39. How much is this to the nearest dollar?

\$4.39 rounded to the nearest dollar is \$4.

**CALCULATOR** A calculator will often show the results of a calculation with a very long decimal. Round each of the numbers on the calculator displays to the nearest thousandth.

21. .2491666667

.2491666667 rounded to the nearest thousandth is 0.249.

23. 21.25103904

21.25103904 rounded to the nearest thousandth is 21.251.

**Round each decimal to the indicated place-value position.**

25. 988.08055; thousandths

988.08055 rounded to the nearest ten-thousandth is 988.0806.

27. 1,567.893; ten-thousandths

1,567.893 rounded to the nearest ten-thousandth is 1,567.8930.

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29. **OPEN ENDED** Give an example of a decimal that when rounded to the nearest tenth is 15.0 and to the nearest hundredth is 15.00.

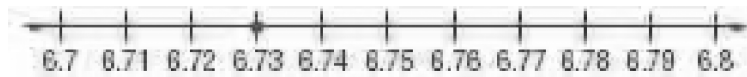
Any decimals greater than or equal to 14.995 and less than 15.044 will work.

Sample answer: 14.998, 15.044, 14.98

31. **CHALLENGE** A number rounded to the nearest tenth is 6.1. The same number rounded to the nearest hundredth is 6.08 and rounded to the nearest thousandth is 6.083. Draw a conclusion as to what this number could be.

The last piece information implies all the others. Any number greater than or equal to 6.0825 and less than 6.0835 will round to 6.083.

33. **WRITING IN MATH** Use a model to show why 6.73 rounded to the nearest tenth is 6.7. Explain your reasoning.



To the nearest tenth, 6.73 rounds to 6.7 because 6.73 is closer to 6.7 than to 6.8.

35. On July 28, 1976, a Lockheed SR-71A set the record for jet speed at 2,193.167 miles per hour. What is this speed rounded to the nearest mile per hour?

F 2,190

G 2,192

H 2,193

J 2,194

H; 2,193.167 miles per hour rounded to the nearest mile per hour is 2,193.

Use  $>$ ,  $<$ , or  $=$  to compare each pair of decimals.

37.  $2.5038 \bullet 25.083$

We can place zeros to the right of the last digits to make the number of decimal places equal.

$2.5038 \rightarrow 02.5038$

$25.083 \rightarrow 25.0830$

Compare the corresponding digits.

Since 0 is less than 2,  $2.5038 < 25.083$ .

39. Write *thirty-two and five hundredths* in standard form.

Write in standard form.

32.05

**PREREQUISITE SKILL** Add or subtract.

41.  $43 + 15$

Add.

$$43 + 15 = 58$$

43.  $85 - 23$

Subtract.

$$85 - 23 = 62$$