Practice & Problem Solving ✏️ ⏻

In 15–17, evaluate each expression for $w = 5$, $x = 3$, $y = 4$, and $z = 8$.

15. $9x$

16. $3y + \dfrac{6}{2x}$

17. $w^2 + 2 + \dfrac{48}{2z}$

In 18–20, evaluate each expression for $x = 1.8$, $x = 5$, and $x = 6.4$.

18. $x \div 4$

19. $x(3.35)$

20. $2x + 3.1$

In 21–23, evaluate each expression for the value given.

21. $j + \dfrac{3}{8}$; $j = \dfrac{3}{4}$

22. $8 - g \div \dfrac{7}{8}$; $g = \dfrac{5}{6}$

23. $3m \div \dfrac{2}{5}$; $m = \dfrac{2}{3}$

24. Evaluate the expression for the values of b.

b	8.9	5.1	0.2
$b(3) + 20.4$	☐	☐	☐

25. Evaluate the expression for the values of j.

j	$\dfrac{1}{2}$	$\dfrac{4}{5}$	$1\dfrac{3}{4}$
$2j + \dfrac{3}{5}$	☐	☐	☐

In 26–28, use the table at the right.

26. **Model with Math** Ms. White wants to rent a small car for a week. It will cost the weekly fee plus $0.30 per mile driven.

    a. Let m = the number of miles Ms. White drives during the week. Write an expression that shows the amount she will pay for the car.

    b. Evaluate the expression you wrote to find how much Ms. White will pay if she drives 100 miles.

ABC Car Rentals: Rates

Vehicle	Week	Day
Small car	$250	$100
Medium car	$290	$110
Luxury car	$325	$120
Small van	$350	$150
Large van	$390	$170

27. Mr. Black rents a luxury car for one week and a few days, d. He does not pay a per-mile fee. Evaluate the expression $325 + 120d$ to find how much Mr. Black will pay for an 11-day rental.

28. For any of the vehicles listed in the table, how many days can you rent the vehicle before it would be less expensive to rent for the week?

In 29 and 30, use the table at the right.

Necklace Length	Cost of Chain	Cost of Pendant
Long	$2.25	$4.50
Medium	$1.80	$3.72
Short	$1.15	$2.39

29. **Model with Math** Tamara is making a medium-length necklace. Write an expression that shows how much it will cost Tamara for the chain, pendant, and *b* beads that cost $0.25 each. Then find the total cost of the necklace if Tamara uses 30 beads.
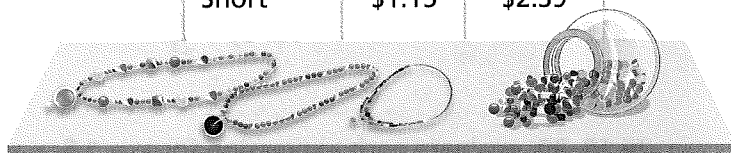
30. **Higher Order Thinking** Ronnie is making short and long necklaces with only one chain and one pendant per necklace. Write an expression that shows how much it will cost Ronnie to make *s* short necklaces and *n* long necklaces. Then find the cost for 3 short necklaces and 2 long necklaces.

31. **Critique Reasoning** Katrina says that the expression $5{,}432 + 4{,}564 + 13{,}908 \div 61n$ can be evaluated by adding $5{,}432 + 4{,}564 + 13{,}908$ and then dividing by the value of $61n$. Do you agree? Explain.

32. The density, *d*, of an object can be found by using the formula $d = \frac{m}{v}$, where *m* is the mass of the object and *v* is its volume. What is the density of an object that has a mass of 73,430 kilograms and a volume of 7 m³?

33. The formula $V = s^3$ can be used to find the volume of a cube. Use the formula to find the volume, *V*, of a cube-shaped bin with side length *s* of $\frac{2}{3}$ yard.

34. Katie is evaluating the expression $15.75 \div p + 3p$ when $p = 3.15$. Explain each step that she should follow.

Assessment Practice

35. Choose the correct values from the box below to complete the table at the right. Evaluate the expression for each value of the variable in the table.

0.32	0.48	27.2	28.8	38.4

x	0.09	5.1	7.2
$5x + (x \div 3)$			