

Lesson 20 Practice Problems

1. Match each situation to one of the equations.

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| A. A whale was diving at a rate of 2 meters per second. How long will it take for the whale to get from the surface of the ocean to an elevation of -12 meters at that rate? | 1. $-12 + x = 2$ |
| B. A swimmer dove below the surface of the ocean. After 2 minutes, she was 12 meters below the surface. At what rate was she diving? | 2. $2 + x = -12$ |
| C. The temperature was -12 degrees Celsius and rose to 2 degrees Celsius. What was the change in temperature? | 3. $-2x = -12$ |
| D. The temperature was 2 degrees Celsius and fell to -12 degrees Celsius. What was the change in temperature? | 4. $2x = -12$ |

2. Starting at noon, the temperature dropped steadily at a rate of 0.8 degrees Celsius every hour.

For each of these situations, write and solve an equation and describe what your variable represents.

- How many hours did it take for the temperature to decrease by 4.4 degrees Celsius?
- If the temperature after the 4.4 degree drop was -2.5 degrees Celsius, what was the temperature at noon?

3. Find the value of each expression.

a. $12 + -10$

b. $-5 - 6$

c. $-42 + 17$

d. $35 - -8$

e. $-4\frac{1}{2} + 3$

(From Unit 7, Lesson 10.)

4. A shopper bought a watermelon, a pack of napkins, and some paper plates. In his state, there is no tax on food. The tax rate on non-food items is 5%. The total for the three items he bought was \$8.25 before tax, and he paid \$0.19 in tax. How much did the watermelon cost?

(From Unit 6, Lesson 7.)

5. A 50-centimeter piece of wire is bent into a circle. What is the area of this circle?

(From Unit 5, Lesson 15.)