Fill in the circle for the correct answer.

1. Marcus rode his mountain bike on a 3-kilometer dirt trail. He completed the trail 2 times. How many meters did Marcus ride his bike?
(A) 60 meters
(C) 6,000 meters
(B) 600 meters
(D) 60,000 meters
2. Which describes the relationship between an hour and a second of time?
(F) 1 hour is 60 times as long as 1 second.
(G) 1 hour is 120 times as long as 1 second.
$\oplus(H) 1$ hour is 1,200 times as long as 1 second.
(®) 1 hour is 3,600 times as long as 1 second.
3. Which table shows kilometers correctly converted to meters?
(A)

| Kilometers | Meters |
| :---: | :---: |
| 2 | 20 |
| 3 | 30 |
| 4 | 40 |

(c)

| Kilometers | Meters |
| :---: | :---: |
| 2 | 2,000 |
| 3 | 3,000 |
| 4 | 4,000 |

(B)

| Kilometers | Meters |
| :---: | :---: |
| 2 | 200 |
| 3 | 300 |
| 4 | 400 |

(D)

| Kilometers | Meters |
| :---: | :---: |
| 2 | 20,000 |
| 3 | 30,000 |
| 4 | 40,000 |

4. What is the area of the rectangle?
(F) 192 sq mi
(G) 162 sq mi
(H) 64 sq mi
(1) 32 sq mi

5. What is the perimeter of the rectangle?
(A) 48 cm
(C) 22 cm
(B) 28 cm
(D) 14 cm


## Convert.

6. 66 ft
(F) 69 yd
(H) 33 yd
(C) 63 yd
(®) 22 yd
7. 52 m
(A) 520 cm
(C) $52,000 \mathrm{~cm}$
(B) $5,200 \mathrm{~cm}$
(D) $520,000 \mathrm{~cm}$
8. 80 cL
(F) 800 mL
(H) $80,000 \mathrm{~mL}$
(G) $8,000 \mathrm{~mL}$
(1) $800,000 \mathrm{~mL}$
9. 8 kg
(A) $80,000 \mathrm{~g}$
(C) 800 g
(B) $8,000 \mathrm{~g}$
(D) 80 g
10. 15 yd
(F) 3 ft
(H) 45 ft
(G) 5 ft
(®) 60 ft
11. 4 lb
(A) 64 oz
(C) 32 oz
(B) 48 oz
(D) 16 oz
12. 6 gal
(F) 12 qt
(H) 24 qt
(G) 18 qt
(®) 48 qt
13. 48 months
(A) 7 years
(C) 5 years
(B) 6 years
(D) 4 years
14. 7 hours
(F) 42 minutes
(H) 422 minutes
(G) 420 minutes
(1) 4,200 minutes

Find the perimeter and area of the rectangle.
15.

(A) Perimeter $=22 \mathrm{~cm}$; Area $=112 \mathrm{sq} \mathrm{cm}$
(B) Perimeter $=44 \mathrm{~cm}$; Area $=112 \mathrm{sq} \mathrm{cm}$
(C) Perimeter $=44 \mathrm{~cm}$; Area $=44 \mathrm{sq} \mathrm{cm}$
(D) Perimeter $=112 \mathrm{~cm}$; Area $=44 \mathrm{sq} \mathrm{cm}$
16.

15 in.

16 in.
(F) Perimeter $=62$ in.; Area $=240$ sq in.
(G) Perimeter $=62$ in.; Area $=62 \mathrm{sq}$ in.
(1) Perimeter $=31$ in.; Area $=240 \mathrm{sq} \mathrm{in}$.
(®) Perimeter $=31 \mathrm{in}$.; Area $=62 \mathrm{sq}$ in.

## Solve.

Show your work.
17. A crate of watermelons weighs 12 pounds. After Nick adds two extra watermelons, the crate weighs 18 pounds. How much do the two extra watermelons weigh in all?
(A) 6 pounds
(C) 20 pounds
(B) 9 pounds
(D) 30 pounds
18. A rectangular rug has an area of 88 square feet. The short sides of the rug are each 8 feet long. What is the length of one of the long sides?
(F) 36 feet
(1) 18 feet
(G) 22 feet
(®) 11 feet
19. A rectangle on a mobile measures 9 centimeters long on the long sides. It measures 3 centimeters long on the short sides. What is the perimeter of the rectangle?
(A) 12 centimeters
(C) 27 centimeters
(B) 24 centimeters
(D) 48 centimeters
20. Regina ships 15 boxes of games. Each box has a mass of 6 kilograms. What is the total mass of the boxes in grams?
(F) 900,000 grams
(H) 9,000 grams
(G) 90,000 grams
(®) 900 grams

## Unit 5

## Measurement

## What Is Assessed?

- Solve problems involving perimeter.
- Solve problems involving area.


## Explaining the Assessment

## Mathematical Practices

CC.K-12.MP. 1
CC.K-12.MP. 2
CC.K-12.MP. 4
CC.K-12.MP. 6

1. The assessment will require students to apply content learned in the unit involving perimeter and area.
2. Talk with students about shapes of patios and decks. Ask them to sketch the shape of possible rectangular floor plans for a patio identifying terms of length, width, area, and perimeter.
3. Discuss how changing the length and width of the patio affects both area and perimeter.
4. Read the activity aloud with the class.

## Possible Responses

1. $1 \mathrm{ft} \times 36 \mathrm{ft}, 2 \mathrm{ft} \times 18 \mathrm{ft}, 3 \mathrm{ft} \times 12 \mathrm{ft}, 4 \mathrm{ft} \times 9 \mathrm{ft}, 6 \mathrm{ft} \times 6 \mathrm{ft}, 9 \mathrm{ft} \times 4 \mathrm{ft}$, $12 \mathrm{ft} \times 3 \mathrm{ft}, 18 \mathrm{ft} \times 2 \mathrm{ft}, 36 \mathrm{ft} \times 1 \mathrm{ft} ; 36 \mathrm{sq} \mathrm{ft}$
2. $74 \mathrm{ft}, 40 \mathrm{ft}, 30 \mathrm{ft}, 26 \mathrm{ft}, 24 \mathrm{ft}, 26 \mathrm{ft}, 30 \mathrm{ft}, 40 \mathrm{ft}, 74 \mathrm{ft}$; Possible answer: The perimeter is the same when the order of lengths and the widths are the same values reversed; for example, the perimeter of both $(1 \mathrm{ft} \times 36 \mathrm{ft})$ and ( $36 \mathrm{ft} \times 1 \mathrm{ft}$ ) is 74 ft .
3. Possible answer: None of the floor plans will work if Gio chooses the fencing that costs $\$ 9$ per foot. Gio could choose the $4 \mathrm{ft} \times 9 \mathrm{ft}, 6 \mathrm{ft} \times$ 6 ft , or $9 \mathrm{ft} \times 4 \mathrm{ft}$ floor plan if he uses the fencing that costs $\$ 7$ per foot. The cost of the fence for the $4 \mathrm{ft} \times 9 \mathrm{ft}$ or the $9 \mathrm{ft} \times 4 \mathrm{ft}$ floor plan is $\$ 182$. The cost of the fence for the $6 \mathrm{ft} \times 6 \mathrm{ft}$ floor plan is $\$ 168$. The $6 \mathrm{ft} \times 6 \mathrm{ft}$ floor plan is the least expensive.
4. Answers will vary, but should indicate an understanding that using a combination of rectangular shapes may increase the options Gio has for keeping the cost of the fence under $\$ 200$ but will not change the least expensive choice.
