

CHAPTER
12

Conversion of Measurements

Worksheet 1 Length

Convert to centimeters.

Example

$$2 \text{ m } 10 \text{ cm} = \underline{200} \text{ cm} + 10 \text{ cm}$$

$$= \underline{210} \text{ cm}$$

The **meter (m)** and **centimeter (cm)**

are units of length.

$$1 \text{ m} = 100 \text{ cm}$$

$$\text{So, } 2 \text{ m} = 200 \text{ cm.}$$

1. $4 \text{ m } 28 \text{ cm} = \underline{\hspace{2cm}} \text{ cm} + 28 \text{ cm}$
 $= \underline{\hspace{2cm}} \text{ cm}$

2. $9 \text{ m } 5 \text{ cm} = \underline{\hspace{2cm}} \text{ cm} + 5 \text{ cm}$
 $= \underline{\hspace{2cm}} \text{ cm}$

3. $8 \text{ m } 54 \text{ cm} = \underline{\hspace{2cm}} \text{ cm} + 54 \text{ cm}$
 $= \underline{\hspace{2cm}} \text{ cm}$

4. $7 \text{ m } 47 \text{ cm} = \underline{\hspace{2cm}} \text{ cm} + \underline{\hspace{2cm}} \text{ cm}$
 $= \underline{\hspace{2cm}} \text{ cm}$

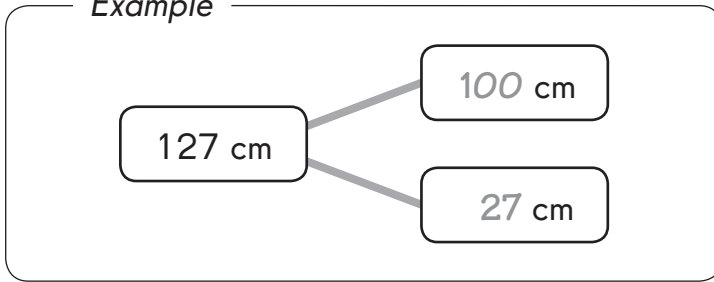
5. $3 \text{ m } 6 \text{ cm} = \underline{\hspace{2cm}} \text{ cm} + \underline{\hspace{2cm}} \text{ cm}$
 $= \underline{\hspace{2cm}} \text{ cm}$

Name: _____

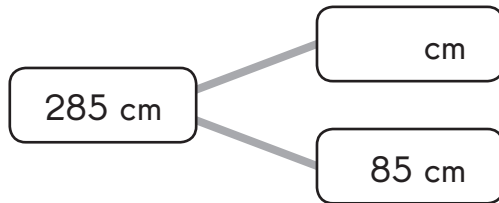
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Complete each number bond.

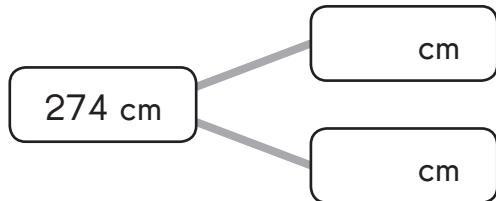
Example



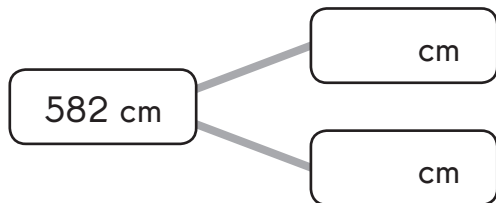
6.



7.



8.



Name: _____

Date: _____

Convert to meters and centimeters.

Example

$$\begin{aligned} 147 \text{ cm} &= \underline{100} \text{ cm} + \underline{47} \text{ cm} \\ &= \underline{1} \text{ m} + \underline{47} \text{ cm} \\ &= \underline{1} \text{ m } \underline{47} \text{ cm} \end{aligned}$$

9. $695 \text{ cm} = \underline{\hspace{2cm}} \text{ cm} + 95 \text{ cm}$
 $= \underline{\hspace{2cm}} \text{ m} + 95 \text{ cm}$
 $= \underline{\hspace{2cm}} \text{ m } 95 \text{ cm}$

10. $108 \text{ cm} = \underline{\hspace{2cm}} \text{ cm} + \underline{\hspace{2cm}} \text{ cm}$
 $= \underline{\hspace{2cm}} \text{ m} + \underline{\hspace{2cm}} \text{ cm}$
 $= \underline{\hspace{2cm}} \text{ m } \underline{\hspace{2cm}} \text{ cm}$

11. $584 \text{ cm} = \underline{\hspace{2cm}} \text{ cm} + \underline{\hspace{2cm}} \text{ cm}$
 $= \underline{\hspace{2cm}} \text{ m } \underline{\hspace{2cm}} \text{ cm}$

12. $309 \text{ cm} = \underline{\hspace{2cm}} \text{ cm} + \underline{\hspace{2cm}} \text{ cm}$
 $= \underline{\hspace{2cm}} \text{ m } \underline{\hspace{2cm}} \text{ cm}$

Name: _____

Date: _____

Convert kilometers to meters.

Example

$$\begin{aligned} 1 \text{ km } 73 \text{ m} &= \underline{1,000} \text{ m} + \underline{73} \text{ m} \\ &= \underline{1,073} \text{ m} \end{aligned}$$

The **kilometer (km)**
is also a unit of length.
 $1 \text{ km} = 1,000 \text{ m}$

13. $2 \text{ km } 435 \text{ m} = \underline{\hspace{2cm}} \text{ m} + 435 \text{ m}$
 $= \underline{\hspace{2cm}} \text{ m}$

14. $8 \text{ km } 149 \text{ m} = \underline{\hspace{2cm}} \text{ m} + 149 \text{ m}$
 $= \underline{\hspace{2cm}} \text{ m}$

15. $5 \text{ km } 7 \text{ m} = \underline{\hspace{2cm}} \text{ m} + 7 \text{ m}$
 $= \underline{\hspace{2cm}} \text{ m}$

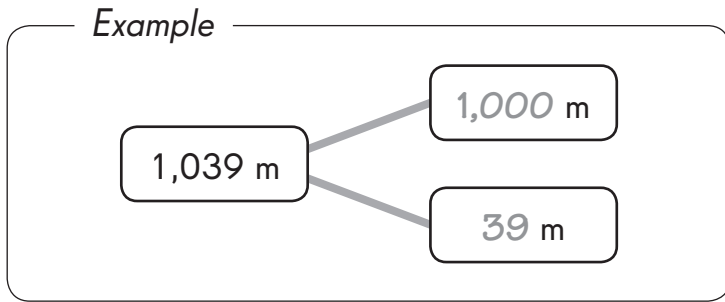
16. $7 \text{ km } 156 \text{ m} = \underline{\hspace{2cm}} \text{ m} + \underline{\hspace{2cm}} \text{ m}$
 $= \underline{\hspace{2cm}} \text{ m}$

17. $6 \text{ km } 22 \text{ m} = \underline{\hspace{2cm}} \text{ m} + \underline{\hspace{2cm}} \text{ m}$
 $= \underline{\hspace{2cm}} \text{ m}$

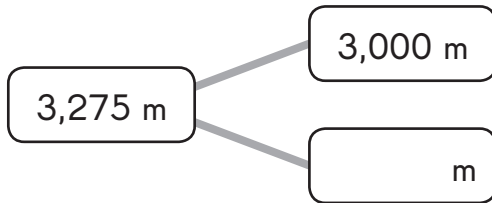
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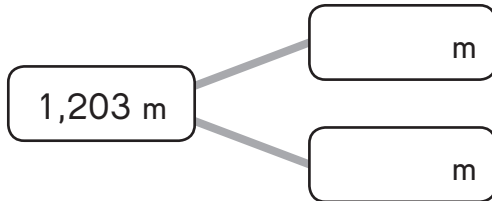
Complete each number bond.



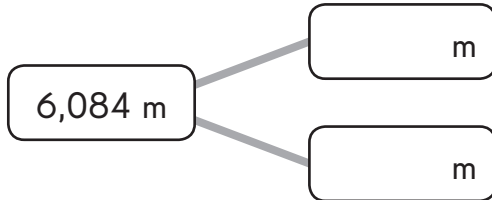
18.



19.



20.



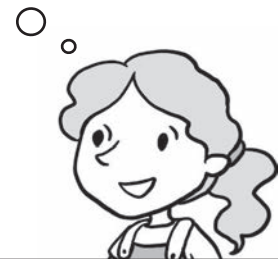
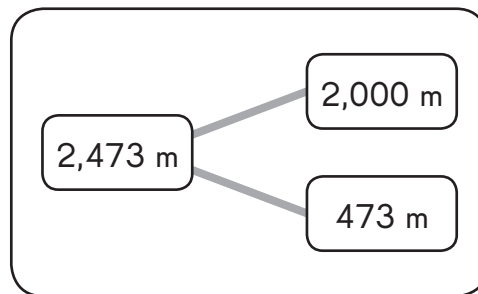
Name: _____

Date: _____

Convert meters to kilometers and meters.

Example

$$\begin{aligned} 2,473 \text{ m} &= \underline{2,000} \text{ m} + \underline{473} \text{ m} \\ &= \underline{2} \text{ km} + \underline{473} \text{ m} \\ &= \underline{2} \text{ km } \underline{473} \text{ m} \end{aligned}$$



21. $7,149 \text{ m} = \underline{\hspace{2cm}} \text{ m} + 149 \text{ m}$
 $= \underline{\hspace{2cm}} \text{ km} + 149 \text{ m}$
 $= \underline{\hspace{2cm}} \text{ km } 149 \text{ m}$

22. $4,205 \text{ m} = \underline{\hspace{2cm}} \text{ m} + 205 \text{ m}$
 $= \underline{\hspace{2cm}} \text{ km} + 205 \text{ m}$
 $= \underline{\hspace{2cm}} \text{ km } 205 \text{ m}$

23. $6,074 \text{ m} = \underline{\hspace{2cm}} \text{ m} + 74 \text{ m}$
 $= \underline{\hspace{2cm}} \text{ km} + 74 \text{ m}$
 $= \underline{\hspace{2cm}} \text{ km } 74 \text{ m}$

Name: _____

Date: _____

24. $1,485 \text{ m} = \underline{\hspace{2cm}} \text{ m} + \underline{\hspace{2cm}} \text{ m}$
 $= \underline{\hspace{2cm}} \text{ km} + \underline{\hspace{2cm}} \text{ m}$
 $= \underline{\hspace{2cm}} \text{ km} \underline{\hspace{2cm}} \text{ m}$

25. $2,084 \text{ m} = \underline{\hspace{2cm}} \text{ m} + \underline{\hspace{2cm}} \text{ m}$
 $= \underline{\hspace{2cm}} \text{ km} + \underline{\hspace{2cm}} \text{ m}$
 $= \underline{\hspace{2cm}} \text{ km} \underline{\hspace{2cm}} \text{ m}$

26. $7,909 \text{ m} = \underline{\hspace{2cm}} \text{ m} + \underline{\hspace{2cm}} \text{ m}$
 $= \underline{\hspace{2cm}} \text{ km} + \underline{\hspace{2cm}} \text{ m}$
 $= \underline{\hspace{2cm}} \text{ km} \underline{\hspace{2cm}} \text{ m}$

27. $3,002 \text{ m} = \underline{\hspace{2cm}} \text{ m} + \underline{\hspace{2cm}} \text{ m}$
 $= \underline{\hspace{2cm}} \text{ km} + \underline{\hspace{2cm}} \text{ m}$
 $= \underline{\hspace{2cm}} \text{ km} \underline{\hspace{2cm}} \text{ m}$

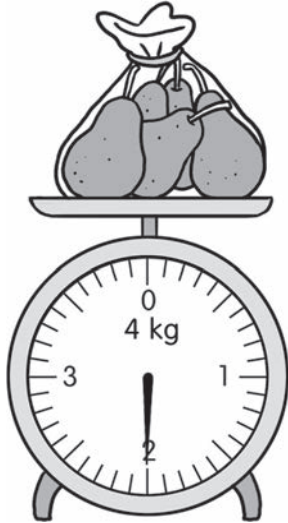
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Worksheet 2 Mass, Weight, and Volume

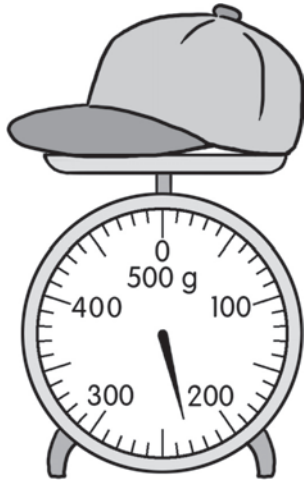
Read each scale.
Then write the mass.

1.



The mass of the bag of pears is _____ kilograms.

2.



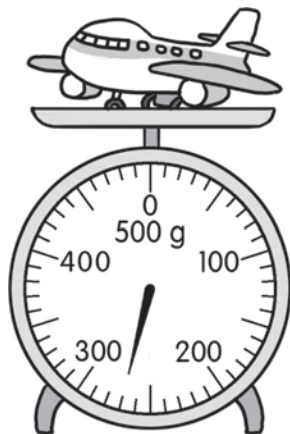
The mass of the cap is _____ grams.

Name: _____

Date: _____

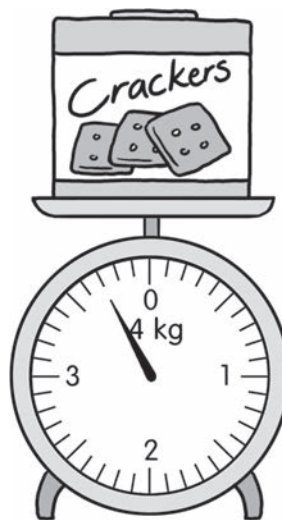
Read each scale.
Then write the mass.

3.



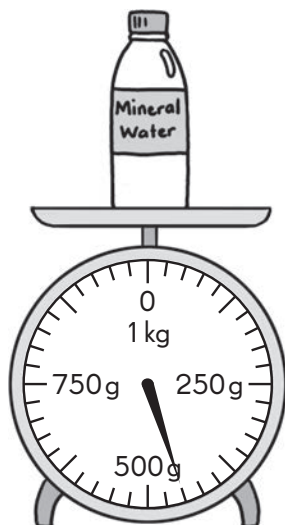
_____ g

4.



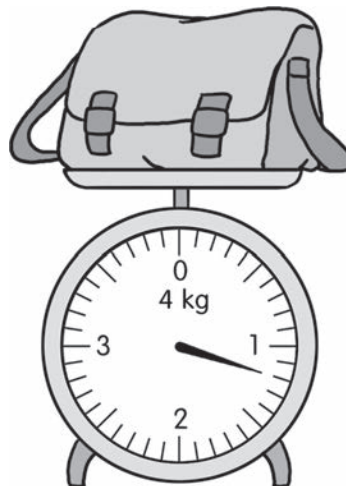
_____ kg _____ g

5.



_____ g

6.



_____ kg _____ g

Name: _____

Date: _____

Write in grams.

Example

$$2 \text{ kg} = \underline{2} \times 1,000 \text{ g} = \underline{2,000} \text{ g}$$

7. $5 \text{ kg} = \underline{\hspace{2cm}} \times 1,000 \text{ g} = \underline{\hspace{2cm}} \text{ g}$

8. $9 \text{ kg} = \underline{\hspace{2cm}} \times 1,000 \text{ g} = \underline{\hspace{2cm}} \text{ g}$

9. $7 \text{ kg} = \underline{\hspace{2cm}} \times 1,000 \text{ g} = \underline{\hspace{2cm}} \text{ g}$

Write in grams.

Example

$$\begin{aligned} 3 \text{ kg } 275 \text{ g} &= \underline{3} \text{ kg} + \underline{275} \text{ g} \\ &= \underline{3,000} \text{ g} + \underline{275} \text{ g} \\ &= \underline{3,275} \text{ g} \end{aligned}$$

The **kilogram (kg)** and **gram (g)** are units of mass.

$$1 \text{ kg} = 1,000 \text{ g}$$

$$\text{So, } 3 \text{ kg} = 3,000 \text{ g.}$$

10. $6 \text{ kg } 147 \text{ g} = \underline{\hspace{2cm}} \text{ kg} + 147 \text{ g}$
 $= \underline{\hspace{2cm}} \text{ g} + 147 \text{ g}$
 $= \underline{\hspace{2cm}} \text{ g}$

11. $8 \text{ kg } 49 \text{ g} = \underline{\hspace{2cm}} \text{ kg} + 49 \text{ g}$
 $= \underline{\hspace{2cm}} \text{ g} + 49 \text{ g}$
 $= \underline{\hspace{2cm}} \text{ g}$

Name: _____

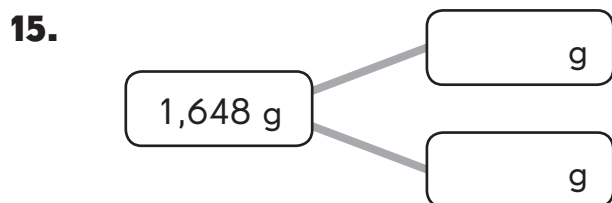
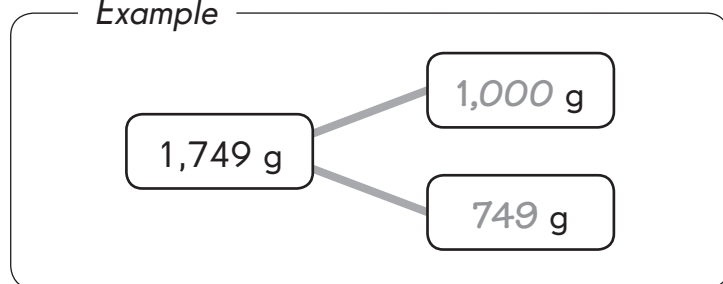
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12. $4\text{ kg } 702\text{ g} = \underline{\hspace{2cm}}\text{ kg} + \underline{\hspace{2cm}}\text{ g}$
 $= \underline{\hspace{2cm}}\text{ g} + \underline{\hspace{2cm}}\text{ g}$
 $= \underline{\hspace{2cm}}\text{ g}$

13. $7\text{ kg } 8\text{ g} = \underline{\hspace{2cm}}\text{ kg} + \underline{\hspace{2cm}}\text{ g}$
 $= \underline{\hspace{2cm}}\text{ g} + \underline{\hspace{2cm}}\text{ g}$
 $= \underline{\hspace{2cm}}\text{ g}$

Complete each number bond.

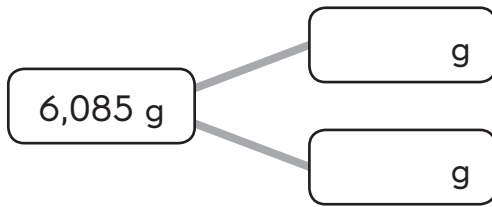
Example



Name: _____

Date: _____

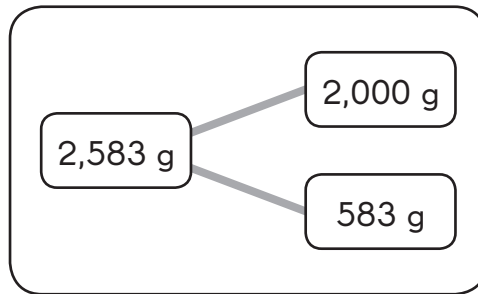
16.



Write in kilograms and grams.

Example

$$\begin{aligned} 2,583 \text{ g} &= \underline{2,000} \text{ g} + \underline{583} \text{ g} \\ &= \underline{2} \text{ kg} + \underline{583} \text{ g} \\ &= \underline{2} \text{ kg } \underline{583} \text{ g} \end{aligned}$$



17. $7,148 \text{ g} = \underline{\hspace{2cm}} \text{ g} + 148 \text{ g}$

$= \underline{\hspace{2cm}} \text{ kg} + 148 \text{ g}$

$= \underline{\hspace{2cm}} \text{ kg } 148 \text{ g}$

Name: _____

Date: _____

18. $3,075 \text{ g} = \underline{\hspace{2cm}} \text{ g} + 75 \text{ g}$
 $= \underline{\hspace{2cm}} \text{ kg} + 75 \text{ g}$
 $= \underline{\hspace{2cm}} \text{ kg } 75 \text{ g}$

19. $6,009 \text{ g} = \underline{\hspace{2cm}} \text{ g} + 9 \text{ g}$
 $= \underline{\hspace{2cm}} \text{ kg} + 9 \text{ g}$
 $= \underline{\hspace{2cm}} \text{ kg } 9 \text{ g}$

20. $2,622 \text{ g} = \underline{\hspace{2cm}} \text{ g} + \underline{\hspace{2cm}} \text{ g}$
 $= \underline{\hspace{2cm}} \text{ kg} + \underline{\hspace{2cm}} \text{ g}$
 $= \underline{\hspace{2cm}} \text{ kg } \underline{\hspace{2cm}} \text{ g}$

21. $4,015 \text{ g} = \underline{\hspace{2cm}} \text{ g} + \underline{\hspace{2cm}} \text{ g}$
 $= \underline{\hspace{2cm}} \text{ kg} + \underline{\hspace{2cm}} \text{ g}$
 $= \underline{\hspace{2cm}} \text{ kg } \underline{\hspace{2cm}} \text{ g}$

22. $8,500 \text{ g} = \underline{\hspace{2cm}} \text{ g} + \underline{\hspace{2cm}} \text{ g}$
 $= \underline{\hspace{2cm}} \text{ kg} + \underline{\hspace{2cm}} \text{ g}$
 $= \underline{\hspace{2cm}} \text{ kg } \underline{\hspace{2cm}} \text{ g}$

Name: _____

Date: _____

Worksheet 3 Time

1. Express the time in minutes.

a. $1 \text{ h} = \underline{\hspace{2cm}} \text{ min}$

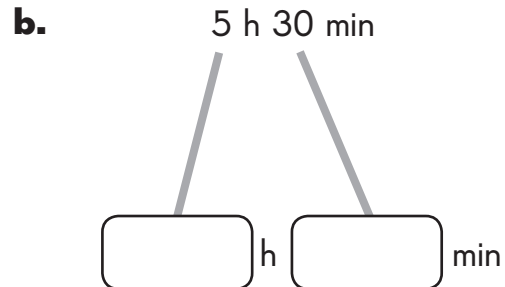
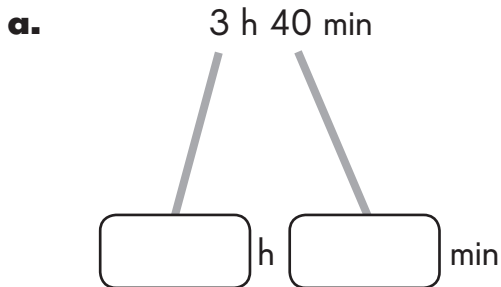
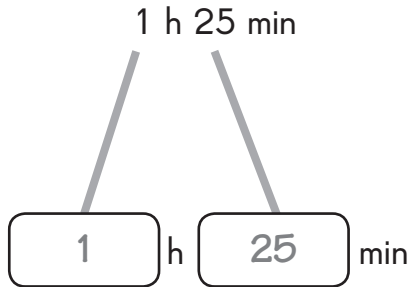
b. $2 \text{ h} = 2 \times \underline{\hspace{2cm}} \text{ min}$
 $= \underline{\hspace{2cm}} \text{ min}$

c. $5 \text{ h} = 5 \times \underline{\hspace{2cm}} \text{ min}$
 $= \underline{\hspace{2cm}} \text{ min}$

d. $7 \text{ h} = 7 \times \underline{\hspace{2cm}} \text{ min}$
 $= \underline{\hspace{2cm}} \text{ min}$

2. Complete each number bond.

Example



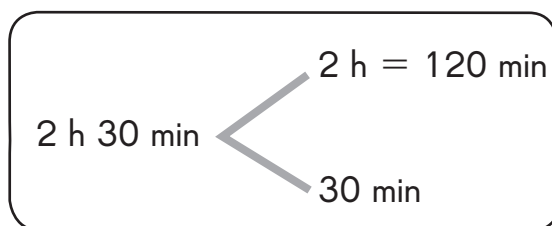
Name: _____

Date: _____

3. Express the time in minutes.

Example

$$2 \text{ h } 30 \text{ min} = \underline{120} \text{ min} + \underline{30} \text{ min}$$
$$= \underline{150} \text{ min}$$



a. $3 \text{ h } 25 \text{ min} = \underline{\hspace{2cm}} \text{ min} + 25 \text{ min}$
 $= \underline{\hspace{2cm}} \text{ min}$

b. $5 \text{ h } 35 \text{ min} = \underline{\hspace{2cm}} \text{ min} + 35 \text{ min}$
 $= \underline{\hspace{2cm}} \text{ min}$

c. $4 \text{ h } 8 \text{ min} = \underline{\hspace{2cm}} \text{ min} + \underline{\hspace{2cm}} \text{ min}$
 $= \underline{\hspace{2cm}} \text{ min}$

d. $7 \text{ h } 12 \text{ min} = \underline{\hspace{2cm}} \text{ min} + \underline{\hspace{2cm}} \text{ min}$
 $= \underline{\hspace{2cm}} \text{ min}$

Name: _____

Date: _____

4. Express the time in hours.

Example

$$\begin{aligned} 120 \text{ min} &= \underline{2} \times 60 \text{ min} \\ &= \underline{2} \text{ h} \end{aligned}$$

- a. $180 \text{ min} = \underline{\hspace{2cm}} \times 60 \text{ min}$
 $= \underline{\hspace{2cm}} \text{ h}$
- b. $300 \text{ min} = \underline{\hspace{2cm}} \times 60 \text{ min}$
 $= \underline{\hspace{2cm}} \text{ h}$

5. Fill in the blanks.

Example

80 minutes is between 1 hour and
2 hours.

1 h = 60 min
2 h = 120 min



- a. 99 minutes is between _____ hour and _____ hours.
- b. 165 minutes is between _____ hours and _____ hours.

Name: _____

Date: _____


6. Express the time in hours and minutes.

Example

80 min = 1 h 20 min

60 min + 20 min

1 h = 60 min ✓
2 h = 120 min



a. 100 min = _____ h _____ min

_____ min + _____ min

b. 150 min = _____ h _____ min

_____ min + _____ min

c. 135 min = _____ h _____ min

_____ min + _____ min

d. 200 min = _____ h _____ min

_____ min + _____ min

Name: _____

Date: _____

Worksheet 4 Real-World Problems: Measurement

1. Complete the statements.

$$1 \text{ unit} = 73$$

$$1 \text{ pizza} = 56 \text{ g}$$

$$4 \text{ units} = \underline{\hspace{2cm}} \times \underline{\hspace{2cm}}$$
$$= \underline{\hspace{2cm}}$$

$$6 \text{ pizzas} = \underline{\hspace{2cm}} \text{ g}$$

$$1 \text{ circle} = 450 \text{ m}$$

$$5 \text{ circles} = \underline{\hspace{2cm}} \text{ m}$$

2. Minah runs one round in 2 minutes. How long does she take to run 9 rounds?

3. One bottle of water weighs 750 grams. Find the weight of 6 bottles of water.

4. Find the value of

a. $\frac{1}{3} + \frac{2}{9}$

b. $\frac{1}{4} + \frac{5}{12}$

Name: _____

Date: _____

5. Find the value of

a. $\frac{1}{2} \times 720$

b. $\frac{3}{4} \times 1,720$

6. Lina had her breakfast at 7:30 A.M. She left her house 20 minutes later. What time did she leave the house?

7. Joan has her math lesson at 9:50 A.M. The lesson finishes at 1:30 P.M. How long does the lesson last?