

Converting Units of Measurement

Name: _____ Date: _____ Score: _____ / 18

Quick Review and Helpful Hints

To convert units, multiply by the right conversion factor. Handy ones: 1 ft = 12 in, 1 yd = 3 ft, 1 m = 100 cm, 1 km = 1000 m, 1 lb = 16 oz, 1 hr = 60 min, 1 min = 60 s.

► **Example:** Convert 3 ft to inches. **Work:** Since 1 ft = 12 in, multiply: $3 \times 12 = 36$.
 ★ **Answer:** 36 in

1 ft = 12 in

Multiply by the conversion factor.

Practice Problems

Convert each measurement.

- | | | | |
|-------------------|-------|--------------------|-------|
| 1. 3 ft to inches | _____ | 8. 24 in to ft | _____ |
| 2. 2 yd to feet | _____ | 9. 9 ft to yd | _____ |
| 3. 5 m to cm | _____ | 10. 300 cm to m | _____ |
| 4. 2 km to m | _____ | 11. 3000 m to km | _____ |
| 5. 4 lb to oz | _____ | 12. 48 oz to lb | _____ |
| 6. 2 hr to min | _____ | 13. 180 min to hr | _____ |
| 7. 5 min to sec | _____ | 14. 6 ft to inches | _____ |

Word Problems

15. A stage crew cuts two shelf braces that are each 2 ft long. The supply sheet must list the total brace length in inches. How many inches of brace material are needed?

16. A community fun run has a 2 km loop followed by a 3 km straight finish. The timing system records meters. How many meters is the full route?

17. At a clinic, a scale reads 96 oz with a blanket. The blanket weighs 16 oz, so the baby is 80 oz. What is the baby's weight in pounds?

18. A GED prep class reserves a 2 hr review block that includes instruction, practice, and a short break. How many total minutes are reserved?



Answer Keys

- | | | |
|------------|----------|-------------|
| 1. 36 in | 7. 300 s | 13. 3 hr |
| 2. 6 ft | 8. 2 ft | 14. 72 in |
| 3. 500 cm | 9. 3 yd | 15. 48 in |
| 4. 2000 m | 10. 3 m | 16. 5000 m |
| 5. 64 oz | 11. 3 km | 17. 5 lb |
| 6. 120 min | 12. 3 lb | 18. 120 min |

Step-by-Step Explanations

1. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $3 \times 12 = 36$ in. So the final answer is 36.
2. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $2 \times 3 = 6$ ft. So the final answer is 6.
3. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $5 \times 100 = 500$ cm. So the final answer is 500.
4. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $2 \times 1000 = 2000$ m. So the final answer is 2000.
5. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $4 \times 16 = 64$ oz. So the final answer is 64.
6. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $2 \times 60 = 120$ min. So the final answer is 120.
7. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $5 \times 60 = 300$ s. So the final answer is 300.
8. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $24 \div 12 = 2$ ft. So the final answer is 2.
9. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $9 \div 3 = 3$ yd. So the final answer is 3.
10. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $300 \div 100 = 3$ m. So the final answer is 3.
11. Step by step: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $3000 \div 1000 = 3$ km. So the final answer is 3.
12. Take it one move at a time: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $48 \div 16 = 3$ lb. So the final answer is 3.
13. Start by naming the process: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $180 \div 60 = 3$ hr. So the final answer is 3.
14. A good way to think about this is: Read what the problem is asking, choose the matching rule, write the setup, and then simplify one step at a time. The setup/work is $6 \times 12 = 72$ in. So the final answer is 72.
15. First find the total brace length: two 2-ft braces make 4 ft altogether. Since each foot has 12 inches, multiply $4 \times 12 = 48$. The supply sheet should list 48 in.
16. Add the two route parts first: $2 \text{ km} + 3 \text{ km} = 5 \text{ km}$. Then convert kilometers to meters by multiplying by 1000: $5 \times 1000 = 5000$. The full route is 5000 m.
17. Subtract the blanket to get the baby's weight: $96 - 16 = 80$ oz. Since 16 oz equals 1 lb, divide $80 \div 16 = 5$. The baby weighs 5 lb.
18. The class block is listed in hours, but the schedule needs minutes. Each hour is 60 minutes, so $2 \times 60 = 120$. The reserved block is 120 min.



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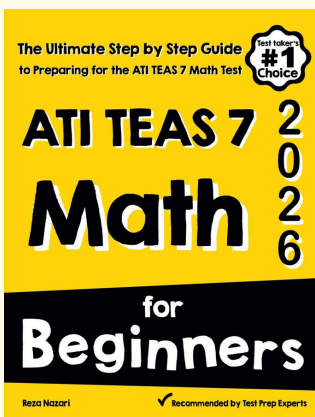
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