

**2 Math Practice****Finding Force, Acceleration, and Mass**

Solve each equation. Use correct units. Remember to show all work.

1.  $m = 5 \text{ kg}$ ,  $a = 8 \text{ m/s}^2$

Solve for force. \_\_\_\_\_

2.  $F = 75 \text{ N}$ ,  $a = 5 \text{ m/s}^2$

Solve for mass. \_\_\_\_\_

3.  $m = 15 \text{ kg}$ ,  $F = 60 \text{ N}$

Solve for acceleration. \_\_\_\_\_

4.  $F = 12 \text{ N}$ ,  $a = 6 \text{ m/s}^2$

Solve for mass. \_\_\_\_\_

5.  $F = 220 \text{ N}$ ,  $a = 11 \text{ m/s}^2$

Solve for mass. \_\_\_\_\_

6.  $m = 7 \text{ kg}$ ,  $a = 5 \text{ m/s}^2$

Solve for force. \_\_\_\_\_

7.  $m = 42 \text{ kg}$ ,  $a = 25 \text{ m/s}^2$

Solve for force. \_\_\_\_\_

8.  $m = 75 \text{ kg}$ ,  $F = 425 \text{ N}$

Solve for acceleration. \_\_\_\_\_

9.  $m = 27 \text{ kg}$ ,  $F = 108 \text{ N}$

Solve for acceleration. \_\_\_\_\_

Write and solve an equation to find the missing quantity.

10. A bowling ball with a mass of 7 kg leaves your hand with an acceleration of
- $63 \text{ m/s}^2$
- . What size force did you apply?
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- \_\_\_\_\_

11. How much does a 5 kg cart accelerate when you lift it with exactly 45 N of force?
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- \_\_\_\_\_

12. Suppose you and a classmate push a cart loaded with bricks to demonstrate force. You apply a force of 500 N, and the cart accelerates at a rate of
- $0.5 \text{ m/s}^2$
- . What mass does the cart have?
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- \_\_\_\_\_

13. You push a merry-go-round on which your friend is riding. Your friend weighs 45 kg, and the merry-go-round weighs 163 kg. The merry-go-round leaves your hand with an acceleration of
- $52 \text{ m/s}^2$
- . What size force was applied?
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- \_\_\_\_\_

14. It takes a force of about 45 N to lift your backpack. You lift it with an acceleration of
- $3 \text{ m/s}^2$
- . What is the mass of the backpack?
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