

Lesson 7 Practice Problems

1. Match each equation with an equivalent equation. Some of the answer choices are not used.

A. $3x + 6 = 4x + 7$

B. $3(x + 6) = 4x + 7$

C. $4x + 3x = 7 - 6$

1. $9x = 4x + 7$

2. $3x + 18 = 4x + 7$

3. $3x = 4x + 7$

4. $3x - 1 = 4x$

5. $7x = 1$

2. Mai says that equations A and B have the same solution.

◦ Equation A: $-3(x + 7) = 24$

◦ Equation B: $x + 7 = -8$

Which statement explains why this is true?

A. Adding 3 to both sides of Equation A gives $x + 7 = -8$.

B. Applying the distributive property to Equation A gives $x + 7 = -8$.

C. Subtracting 3 from both sides of Equation A gives $x + 7 = -8$.

D. Dividing both sides of Equation A by -3 gives $x + 7 = -8$.

3. Is 0 a solution to $2x + 10 = 4x + 10$? Explain or show your reasoning.

4. Kiran says that a solution to the equation $x + 4 = 20$ must also be a solution to the equation $5(x + 4) = 100$.

Write a convincing explanation as to why this is true.

5. The entrepreneurship club is ordering potted plants for all 36 of its sponsors. One store charges \$8.50 for each plant plus a delivery fee of \$20. The equation $320 = x + 7.50(36)$ represents the cost of ordering potted plants at a second store.

What does the x represent in this situation?

- A. The cost for each potted plant at the second store
- B. The delivery fee at the second store
- C. The total cost of ordering potted plants at the second store
- D. The number of sponsors of the entrepreneurship club

(From Unit 2, Lesson 4.)

6. Which equation is equivalent to the equation $5x + 30 = 45$?

- A. $35x = 45$
- B. $5x = 75$
- C. $5(x + 30) = 45$
- D. $5(x + 6) = 45$

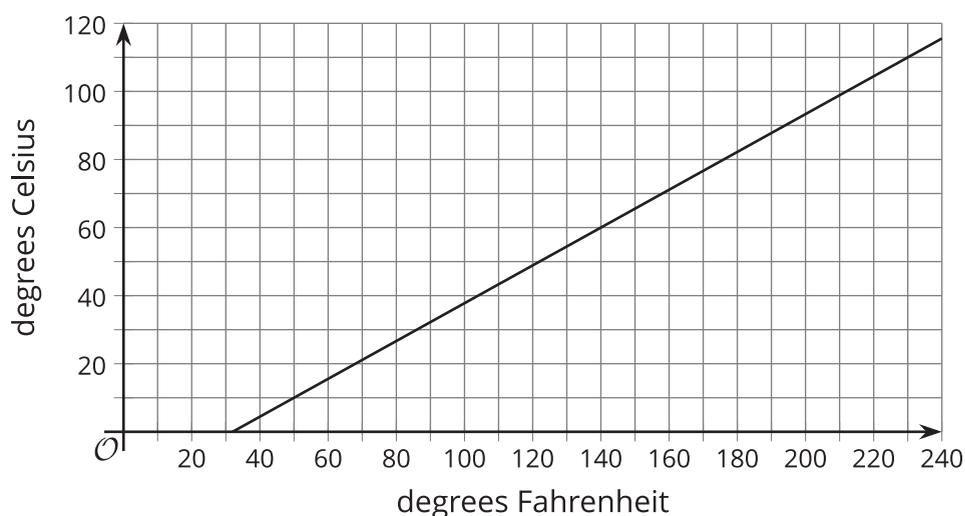
(From Unit 2, Lesson 6.)

7. The environmental science club is printing T-shirts for its 15 members. The printing company charges a certain amount for each shirt plus a setup fee of \$20.

If the T-shirt order costs a total of \$162.50, how much does the company charge for each shirt?

(From Unit 2, Lesson 4.)

8. The graph shows the relationship between temperature in degrees Celsius and temperature in degrees Fahrenheit.



- Mark the point on the graph that shows the temperature in Celsius when it is 60 degrees Fahrenheit.
- Mark the point on the graph that shows the temperature in Fahrenheit when it is 60 degrees Celsius.
- Water boils at 100 degrees Celsius. Use the graph to approximate the boiling temperature in Fahrenheit, or to confirm it, if you knew what it is.
- The equation that converts Fahrenheit to Celsius is $C = \frac{5}{9}(F - 32)$. Use it to calculate the temperature in Celsius when it is 60 degrees Fahrenheit. (This answer will be more exact than the point you found in the first part.)

(From Unit 2, Lesson 5.)

9. Select **all** the equations that have the same solution as $2x - 5 = 15$.

A. $2x = 10$

B. $2x = 20$

C. $2(x - 5) = 15$

D. $2x - 20 = 0$

E. $4x - 10 = 30$

F. $15 = 5 - 2x$

(From Unit 2, Lesson 6.)

10. Diego's age d is 5 more than 2 times his sister's age s . This situation is represented by the equation $d = 2s + 5$. Which equation is equivalent to the equation $d = 2s + 5$?

A. $d = 2(s + 5)$

B. $d - 5 = 2s$

C. $d - 2 = s + 5$

D. $\frac{d}{2} = s + 5$

(From Unit 2, Lesson 6.)