

1. 010427a, P.I. A.M.2

Which expression represents the number of yards in x feet?

[A] $12x$ [B] $\frac{x}{12}$ [C] $3x$ [D] $\frac{x}{3}$

2. 060014a, P.I. A.M.2

If rain is falling at the rate of 2 inches per hour, how many inches of rain will fall in x minutes?

[A] $\frac{x}{30}$ [B] $\frac{30}{x}$ [C] $2x$ [D] $\frac{60}{x}$

3. 060709a, P.I. A.M.2

Andy is 6 feet tall. If 1 inch equals 2.54 centimeters, how tall is Andy, to the *nearest centimeter*?

[A] 213 [B] 15 [C] 30 [D] 183

4. 060731a, P.I. A.M.2

If a United States dollar is worth \$1.41 in Canadian money, how much is \$100 in Canadian money worth in United States money, to the *nearest cent*?

5. 060911ia, P.I. A.M.2

If the speed of sound is 344 meters per second, what is the approximate speed of sound, in meters per hour?

60 seconds = 1 minute
60 minutes = 1 hour

[A] 41,280 [B] 123,840
[C] 20,640 [D] 1,238,400

6. 060407a, P.I. A.M.2

If the temperature in Buffalo is 23° Fahrenheit, what is the temperature in degrees Celsius? [Use the formula $C = \frac{5}{9}(F - 32)$.]

[A] -5 [B] 45 [C] 5 [D] -45

7. 089908a, P.I. A.M.2

The formula $C = \frac{5}{9}(F - 32)$ can be used to find the Celsius temperature (C) for a given Fahrenheit temperature (F). What Celsius temperature is equal to a Fahrenheit temperature of 77° ?

[A] 8° [B] 25° [C] 171° [D] 45°

8. 010734a, P.I. A.M.2

The formula $C = \frac{5}{9}(F - 32)$ is used to convert Fahrenheit temperature, F , to Celsius temperature, C . What temperature, in degrees Fahrenheit, is equivalent to a temperature of 10° Celsius?

9. 060021a, P.I. A.M.2

The formula for changing Celsius (C) temperature to Fahrenheit (F) temperature is

$$F = \frac{9}{5}C + 32.$$

Calculate, to the *nearest degree*, the Fahrenheit temperature when the Celsius temperature is -8 .

10. 080804a, P.I. A.M.2

The formula for converting temperatures in degrees Celsius to degrees Fahrenheit is

$$F = \frac{9}{5}C + 32.$$

If the temperature is 20°C , what is the temperature in degrees Fahrenheit?

- [A] 4 [B] 43.1 [C] 68 [D] 33.8

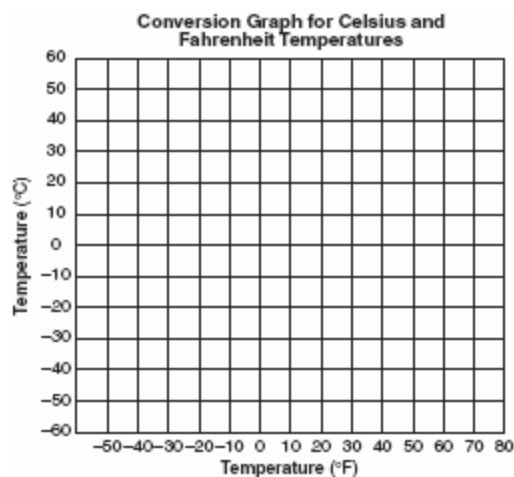
11. 010901ia, P.I. A.M.2

On a certain day in Toronto, Canada, the temperature was 15° Celsius (C). Using the formula $F = \frac{9}{5}C + 32$, Peter converts this temperature to degrees Fahrenheit (F). Which temperature represents 15°C in degrees Fahrenheit?

- [A] -9 [B] 59 [C] 35 [D] 85

12. 060128a, P.I. A.M.2

Connor wants to compare Celsius and Fahrenheit temperatures by drawing a conversion graph. He knows that $-40^\circ\text{C} = -40^\circ\text{F}$ and that $20^\circ\text{C} = 68^\circ\text{F}$. On the accompanying grid, construct the conversion graph and, using the graph, determine the Celsius equivalent of 25°F .



[1] D _____

[2] A _____

[3] D _____

[2] 70.92, and appropriate work is shown, such as a proportion.

[1] Appropriate work is shown, but one computational or rounding error is made.

or [1] Appropriate work is shown, but one conceptual error is made.

or [1] 70.92, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[4] incorrect procedure.

[5] D _____

[6] A _____

[7] B _____

[2] 50, and appropriate work is shown, such as solving the equation $10 = \frac{5}{9}(F - 32)$.

[1] Appropriate work is shown, but one computational error is made.

or [1] Appropriate work is shown, but one conceptual error is made.

or [1] Correct substitution is made into the equation, but no further correct work is shown.

or [1] 50, but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[8] incorrect procedure.

[2] 18 and correct substitution, $F = \frac{9}{5}(-8) +$

32, is shown.

[1] A correct substitution method is shown, but one computational error is made.

or [1] The answer is not rounded to the nearest integer, such as 17.6 or 17.

or [1] The student substitutes -8 for F , but then solves appropriately for C .

or [1] The student substitutes +8 for C , but then solves appropriately for F .

or [1] 18 but no work is shown.

[0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an obviously

[9] incorrect procedure.

[10] C _____

[11] B _____

[3] A correct graph is shown, and an answer between -6° and -2° is found.

[2] A correct formula is used, and -4°C or an equivalent answer is found, but no graph is shown.

or [2] An appropriate graph is shown, and the correct answer is marked, but it is stated incorrectly, such as 5°C instead of -5°C .

or [2] An appropriate graph is shown, but answers outside the given range are found.

or [2] The line graph passes through at least one correct point, and an appropriate answer is found.

[1] The formula is used correctly, but the answer is not in the range, and no graph is shown.

or [1] An answer between -6° and -2° is found, but no graph is shown.

[0] A completely incorrect graph is shown.

or [0] No graph is shown and the formula is used incorrectly.

or [0] A zero response is completely incorrect, irrelevant, or incoherent or is a correct response that was obtained by an

[12] obviously incorrect procedure.