Temperature Conversion Worksheet

Celsius, Fahrenheit and kelvin, using the exact formulas

Level: Ages 11–14 · Grades 6–9 · Years 7–10

allunitconversions.com/conversion-worksheets
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Name _____ Class _____ Date _____ Score / 20

Use the formulas in the box. Give Celsius and Fahrenheit answers to 1 decimal place where needed; kelvin answers are exact.

REFERENCE

°F = °C × 9/5 + 32	°C = (°F − 32) × 5/9	K = °C + 273.15	°C = K − 273.15
Water freezes: 0 °C = 32 °F	Water boils: 100 °C = 212 °F		

WORKED EXAMPLE

68 °F = ? °C → (68 − 32) × 5/9 = 36 × 5/9 = 20 → **20 °C**

Part A: Celsius to Fahrenheit

1. 10 °C = _____ °F

2. 73 °C = _____ °F

3. −7 °C = _____ °F

4. 174 °C = _____ °F

5. 19.1 °C = _____ °F

6. 35 °C = _____ °F

7. −43 °C = _____ °F

8. 231 °C = _____ °F

Part B: Fahrenheit to Celsius

9. 67 °F = _____ °C

10. 165 °F = _____ °C

11. 28 °F = _____ °C

12. −40 °F = _____ °C

13. 375 °F = _____ °C

14. 96 °F = _____ °C

15. 97.4 °F = _____ °C

16. 396 °F = _____ °C

Part C: kelvin

17. −36 °C = _____ K

18. −103 °C = _____ K

19. 320 K = _____ °C

20. 62 K = _____ °C

Celsius and Fahrenheit answers are rounded to 1 decimal place; kelvin answers are exact. Answer key on page 2. More worksheets and the matching charts: allunitconversions.com/conversion-worksheets

Answer key — Temperature Conversion Worksheet

For teachers · remove before handing out

#	Question	Answer	Working
PART A: CELSIUS TO FAHRENHEIT			
1	10 °C → °F	**50 °F**	10 × 9/5 + 32 = 50
2	73 °C → °F	**163.4 °F**	73 × 9/5 + 32 = 163.4
3	−7 °C → °F	**19.4 °F**	−7 × 9/5 + 32 = 19.4
4	174 °C → °F	**345.2 °F**	174 × 9/5 + 32 = 345.2
5	19.1 °C → °F	**66.4 °F**	19.1 × 9/5 + 32 = 66.38… ≈ 66.4
6	35 °C → °F	**95 °F**	35 × 9/5 + 32 = 95
7	−43 °C → °F	**−45.4 °F**	−43 × 9/5 + 32 = −45.4
8	231 °C → °F	**447.8 °F**	231 × 9/5 + 32 = 447.8
PART B: FAHRENHEIT TO CELSIUS			
9	67 °F → °C	**19.4 °C**	(67 − 32) × 5/9 = 19.4444… ≈ 19.4
10	165 °F → °C	**73.9 °C**	(165 − 32) × 5/9 = 73.8888… ≈ 73.9
11	28 °F → °C	**−2.2 °C**	(28 − 32) × 5/9 = −2.2222… ≈ −2.2
12	−40 °F → °C	**−40 °C**	(−40 − 32) × 5/9 = −40
13	375 °F → °C	**190.6 °C**	(375 − 32) × 5/9 = 190.5555… ≈ 190.6
14	96 °F → °C	**35.6 °C**	(96 − 32) × 5/9 = 35.5555… ≈ 35.6
15	97.4 °F → °C	**36.3 °C**	(97.4 − 32) × 5/9 = 36.3333… ≈ 36.3
16	396 °F → °C	**202.2 °C**	(396 − 32) × 5/9 = 202.2222… ≈ 202.2
PART C: KELVIN			
17	−36 °C → K	**237.15 K**	−36 + 273.15 = 237.15
18	−103 °C → K	**170.15 K**	−103 + 273.15 = 170.15
19	320 K → °C	**46.85 °C**	320 − 273.15 = 46.85
20	62 K → °C	**−211.15 °C**	62 − 273.15 = −211.15

Teaching notes: common mistakes

- Adding 32 before multiplying. In °F = °C × 9/5 + 32 the multiplication comes first; in °C = (°F − 32) × 5/9 the subtraction in brackets comes first.
- Swapping 9/5 and 5/9. A Fahrenheit number is bigger than the Celsius number for any temperature above −40.
- Writing “degrees kelvin”. The kelvin has no degree sign: 300 K, not 300 °K.

Celsius and Fahrenheit answers are rounded to 1 decimal place; kelvin answers are exact. Every answer is calculated from the exact definitions and checked against the AllUnitConversions conversion engine before the PDF is produced. Matching reference chart: **allunitconversions.com/temperature-conversion-chart**. Free to print, copy and share with attribution (CC BY 4.0).