

16A

1) done

2) $\cancel{60} \times \frac{9}{8} + 32 = F$

$108 + 32 = F$

$140^\circ = F$

3) $\cancel{10} \times \frac{9}{8} + 32 = F$

$18 + 32 = F$

$50^\circ = F$

4) $\cancel{65} \times \frac{9}{8} + 32 = F$

$117 + 32 = F$

$149^\circ = F$

5) $\cancel{200} \times \frac{9}{8} + 32 = F$

$360 + 32 = F$

$392^\circ = F$

6) $\cancel{85} \times \frac{9}{8} + 32 = F$

$153 + 32 = F$

$185^\circ = F$

7) $\cancel{30} \times \frac{9}{8} + 32 = F$

$54 + 32 = F$

$86^\circ = F$

8) $\cancel{110} \times \frac{9}{8} + 32 = F$

$198 + 32 = F$

$230^\circ = F$

9) $\cancel{215} \times \frac{9}{8} + 32 = F$

$387 + 32 = F$

$419^\circ = F$

10) done

11) $2 \times \frac{9}{5} + 32 = F$

$\frac{18}{5} + 32 = F$

$3\frac{3}{5} + 32 = F$

$35\frac{3}{5} = F = 35.6^\circ$

OR

$2 \times 1.8 + 32 =$

$3.6 + 32 = 35.6^\circ$

12) $24 \times \frac{9}{5} + 32 = F$

$\frac{216}{5} + 32 = F$

$43.2 + 32 = F$

$75.2^\circ = F$

13) $0^\circ \text{ C}; 32^\circ \text{ F}$

14) $100^\circ \text{ C}; 212^\circ \text{ F}$

15) $37^\circ \text{ C}; 98.6^\circ \text{ F}$

16) $\cancel{15} \times \frac{9}{8} + 32 = F$

$27 + 32 = F$

$59^\circ = F; \text{ no}$

17) $\cancel{45} \times \frac{9}{8} + 32 = F$

$81 + 32 = F$

$113^\circ = F \text{ warmer}$

18) $\cancel{20} \times \frac{9}{8} + 32 = F$

$36 + 32 = F$

$68^\circ = F$

16B

1) 248° 2) 167° 3) 59° 4) 77° 5) 95° 6) 131° 7) 221° 8) 176° 9) 203° 10) 55.4°

(using 1.8

instead of $\frac{9}{5}$)11) 107.6° 12) 82.4° 13) 32° 14) 98.6° 15) 212° 16) 122° 17) $41^\circ; \text{ yes}$ 18) $176^\circ; \text{ no}$

16C

1) 32° 2) 41° 3) 257° 4) 158° 5) 347° 6) 68° 7) 113° 8) 122° 9) 140° 10) 62.6° 11) 71.6° 12) 48.2° 13) $0^\circ \text{ C}; 32^\circ \text{ F}$ 14) $100^\circ \text{ C}; 212^\circ \text{ F}$ 15) $37^\circ \text{ C}; 98.6^\circ \text{ F}$ 16) $95^\circ; \text{ yes}$ 17) 185° 18) 32°

16D

1) 158° 2) 176° 3) 226.4°

4) $2(4 \times 7) + 2(4 \times 2) + 2(7 \times 2) =$
 $2(28) + 2(8) + 2(14) =$
 $56 + 16 + 28 = 100 \text{ sq. in.}$

5) $4(5 \times 10 \times 1/2) + 5 \times 5 =$
 $4(25) + 25 =$
 $100 + 25 = 125 \text{ sq. in.}$

6) $15 \div 3 \cdot 8 + 10 = B$
 $40 + 10 = B$
 $50 = B$

7) $15 \div 3 \cdot 8 + 10 = (50)$
 $40 + 10 = 50$
 $50 = 50$

8) $(4^2 - X) + (8 \div 4)^2 = X + 2$
 $16 - X + 2^2 = X + 2$
 $16 - X + 4 = X + 2$
 $20 - X = X + 2$
 $20 - 2 = 2X$
 $18 = 2X$
 $9 = X$

9) $(4^2 - (9)) + (8 \div 4)^2 = (9) + 2$
 $16 - 9 + 2^2 = 11$
 $16 - 9 + 4 = 11$
 $11 = 11$

10) done

11) done

12) 11.93

13) 3.54

14) $9.2 - 3.5 = 5.7 \text{ mi.}$

15) $12 + 10.6 = 22.6$

16) 167° 17) 0°

18) $\frac{7}{8} \times \frac{1}{7} \times \frac{4}{5} = \frac{1}{10}$

16E

- 1) 194°
- 2) 212°
- 3) 114.8°
- 4) $2(2 \times 3) + 2(2 \times 1) + 2(3 \times 1) =$
 $2(6) + 2(2) + 2(3) =$
 $12 + 4 + 6 = 22 \text{ sq. in.}$
- 5) $4(3 \times 4 \times 1/2) + 3 \times 3 =$
 $4(6) + 9 = 24 + 9 = 33 \text{ sq. in.}$
- 6) $14 \div 2 - 6X = 2 \cdot 7 - 13$
 $7 - 6X = 14 - 13$
 $-6X = 1 - 7$
 $-6X = -6$
 $X = 1$
- 7) $14 \div 2 - 6(1) = 2 \cdot 7 - 13$
 $7 - 6 = 14 - 13$
 $1 = 1$
- 8) $7C - 4C + 5 - 8 + C = 5^2 + 4$
 $4C - 3 = 25 + 4$
 $4C = 29 + 3$
 $4C = 32$
 $C = 8$
- 9) $7(8) - 4(8) + 5 - 8 + (8) = 5^2 + 4$
 $56 - 32 + 5 - 8 + 8 = 25 + 4$
 $29 = 29$
- 10) 8.4
- 11) 2.14
- 12) 4.19
- 13) 2.7
- 14) $1 \times 10^3 + 4 \times 10^2 + 5 \times 10^1 + 6 \times 10^0$
- 15) $5 \times \frac{1}{10^1} + 4 \times \frac{1}{10^2} + 1 \times \frac{1}{10^3}$
- 16) $4 \times 10^1 + 6 \times \frac{1}{10^2}$
- 17) $8.3 + 3.25 = 11.55$
- 18) 100°
- 19) $E + 15 + 5 = 46$
 $E + 20 = 46$
 $E = 46 - 20$
 $E = 26$
- 20) $4(10 \times 10 \times 1/2) + 10 \times 10 =$
 $4(50) + 100 =$
 $200 + 100 = 300 \text{ sq. ft. so 3 qts.}$

16F

- 1) 266°
- 2) 59°
- 3) 150.8°
- 4) $2(6 \times 9) + 2(9 \times 3) + 2(6 \times 3) =$
 $2(54) + 2(27) + 2(18) =$
 $108 + 54 + 36 = 198 \text{ sq. units}$
- 5) $4(8 \times 8 \times 1/2) + 8 \times 8 =$
 $4(32) + 64 =$
 $128 + 64 = 192 \text{ sq. ft.}$
- 6) $4Q - 2 = 10$
 $4Q = 12$
 $Q = 3$
- 7) $4(3) - 2 = 10$
 $12 - 2 = 10$
- 8) $12^2(X + 3) = 6^2(48 + 32)$
 $144(X + 3) = 36(80)$
 $144X + 432 = 2,880$
 $144X = 2,880 - 432$
 $144X = 2,448$
 $X = 17$
- 9) $12^2((17) + 3) = 6^2(48 + 32)$
 $144(20) = 36(80)$
 $2,880 = 2,880$
- 10) 9.51
- 11) 6.3
- 12) 9.51
- 13) 19.9
- 14) $1 \times 10^4 + 1 \times \frac{1}{10^1}$
- 15) $1 \times 10^0 + 6 \times \frac{1}{10^1} + 7 \times \frac{1}{10^2}$
- 16) $4 \times 10^1 + 5 \times 10^0 + 8 \times \frac{1}{10^1} +$
 $9 \times \frac{1}{10^2} + 2 \times \frac{1}{10^3}$
- 17) $10 - 4.5 = 5.5 \text{ inches}$
- 18) 37°
- 19) $2\frac{3}{8} + 1\frac{1}{4} = \frac{19}{8} + \frac{5}{4} =$
 $\frac{19}{8} \times \frac{4}{5} = \frac{19}{10} = 1\frac{9}{10} \text{ days; no}$
- 20) $\frac{4}{20} = \frac{1}{5}$