



# MATH PROBLEMS

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1. The hottest day on record in San Diego is September 26, 1963 when the thermometer read  $111^{\circ}\text{F}$ ! What is that in  $^{\circ}\text{C}$ ?
  2. The hottest day in San Diego in 2019 was October 24 when the temperature was  $94^{\circ}\text{F}$ . What is that in  $^{\circ}\text{C}$ ?
  3. The hottest temperature in 2018 was  $96^{\circ}\text{F}$  on July 6. How much hotter was the hottest day in 2018 than the hottest day in 2019 in  $^{\circ}\text{C}$ ?
  4. June 21 is the longest day of the year – sunrise is at 5:41am and sunset is 7:59pm. How long is the day?
  5. Based on the answer for Question #4, how many minutes is that?
  6. The shortest day of 2020 is December 21 – the sunrise is at 6:47am and sets at 4:47pm. How long is the day?
  7. Based on the answer for Question #6, how many minutes is that?
  8. How much longer is June 21 than December 21?
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# MATH ANSWERS

**1. 43.9°C**

$$111^{\circ}\text{F} = 43.9^{\circ}\text{C} - \text{where } ^{\circ}\text{C} = (^{\circ}\text{F} - 32) / 1.8 = (111 - 32) / 1.8 = (79 / 1.8) = 43.9$$

**2. 34.4°C**

$$^{\circ}\text{C} = (^{\circ}\text{F} - 32) / 1.8 = (94 - 32) / 1.8 = (62 / 1.8) = 34.4^{\circ}\text{C}$$

**3. 1.1°C**

$$96^{\circ}\text{F} = 35.5^{\circ}\text{C}; 94^{\circ}\text{F} = 34.4^{\circ}\text{C} - 35.5^{\circ}\text{C} - 34.4^{\circ}\text{C} = 1.1^{\circ}\text{C}$$

**4. 14 Hours & 18 Minutes**

5:41am --> 5:41pm = 12 hours; Subtract the remaining hours 7 - 5 = 2 hours; Subtract the remaining minutes 59 - 41 = 18 minutes; now add 12 hours + 2 hours + 18 minutes = 14 hours & 18 minutes

**5. 858 Minutes**

$$14 \text{ hours} \times 60 \text{ minutes} = 840 \text{ minutes} + 18 \text{ minutes} = 858 \text{ minutes}$$

**6. 10 Hours**

6:47am is 5 hours and 13 minutes away from 12:00pm, and 4:47pm is 4 hours and 47 minutes after 12:00pm. Now Add 5 hours + 4 hours = 9 hours; add 13 minutes + 47 minutes = 60 minutes = 1 hour; add 9 hours + 1 hour = 10 hours

**7. 600 Minutes**

$$10 \text{ hours} \times 60 \text{ minutes} = 600 \text{ minutes}$$

**8. 4 Hours & 18 Minutes Longer or 258 Minutes Longer!**

June 21: 14 hours & 18 minutes or 858 minutes

December 21 = 10 hours or 600 minutes

$$14 \text{ hours \& } 18 \text{ minutes (June 21) - 10 hours (Dec. 21) = 4 \text{ Hours \& } 18 \text{ minutes; } 858 \text{ minutes (June 21) - 600 minutes (Dec. 21) = 258 \text{ minutes;}$$