This number line is divided into tenths. The number represented by Point A is $2 \frac{3}{10}$ or 2.3.

1. Write a fraction or a mixed fraction for each point.

   A: \[ \frac{3}{10} \]
   B: \[ \frac{7}{10} \]
   C: \[ \frac{1}{10} \]
   D: \[ \frac{9}{10} \]

   E: \[ \frac{7}{10} \]
   F: \[ \frac{1}{10} \]
   G: \[ \frac{2}{10} \]
   H: \[ \frac{3}{10} \]

2. Mark each point with an 'X' and label the point with the correct letter.

   A. 1.3
   B. 2.7
   C. .70
   D. 1.1
   E. 2 1/10
   F. one and three tenths
   G. nine tenths
   H. one and one tenth
   I. two decimal nine

3. Write the name of each point as a decimal in words.

   A. \[ \text{two tenths} \]
   B. \[ \text{one and one tenth} \]
   C. \[ \text{three tenths} \]

4. Mark the decimals on the number lines.
   a) 0.6
   b) 1.2

BONUS
5. Mark the following fractions and decimals on the number line.

   A. .72
   B. \[ \frac{34}{100} \]
   C. .05
   D. \[ \frac{51}{100} \]
NS6-80: Comparing and Ordering Fractions and Decimals

1. \[\frac{1}{2}\]

   a) Write a decimal for each point marked on the number line. (The first decimal is written for you.)
   \[\frac{1}{2} = \]

   b) Which decimal is equal to one half?

2. Use the number line in Question 1 to say whether each decimal is closer to “zero”, “a half” or “one”.
   a) .3 is closer to _________
   b) .7 is closer to _________
   c) .8 is closer to _________
   d) .9 is closer to _________
   e) .1 is closer to _________
   f) .2 is closer to _________

3. \[\frac{1}{2}\]

   a) .7 _________
   b) .4 _________
   c) .8 _________
   d) .2 _________
   e) .4 _________
   f) .35 _________
   g) .07 _________
   h) \[\frac{3}{4}\] _________

Use the number lines above to compare the numbers given. Write < (less than) or > (greater than) between each pair of numbers.

a) 0.7 _________ \[\frac{3}{4}\]
   b) 0.4 _________ \[\frac{7}{10}\]
   c) 0.8 _________ \[\frac{1}{2}\]
   d) 0.2 _________ \[\frac{1}{4}\]
   e) 0.4 _________ \[\frac{1}{2}\]
   f) 0.35 _________ \[\frac{1}{4}\]
   g) 0.07 _________ \[\frac{1}{2}\]
   h) \[\frac{3}{4}\] _________ .65

4. Which whole number is each decimal or mixed fraction closest to: “zero”, “one”, “two,” or “three”?

   a) 2.4 is closest to _________
   b) 2.8 is closest to _________
   c) \[1\frac{3}{10}\] is closest to _________
1. Write the numbers in order by first changing each decimal to a fraction with a denominator of 10.
   NOTE: Show your work beside each number.
   a) 0.6 \( \frac{6}{10} \) 0.7 0.4  
   b) 1.2 \( \frac{12}{10} \) 3.7 3.5  
   c) 4.7 4.5 \( \frac{43}{10} \)

2. Ali says:
   "To compare .6 and .42, I add a zero to .6:
   
   \[ .6 = 6 \text{ tenths} = 60 \text{ hundredths} = .60 \]
   
   60 (hundredths) is greater than 42 (hundredths).
   
   So .6 is greater than .42."

   Add a zero to the decimal expressed in tenths. Then circle the greater number in each pair.
   a) .4 .32  
   b) .72 .8  
   c) .32 .2

3. Write each decimal as a fraction with denominator 100 by first adding a zero to the decimal.
   a) .7 = \( \frac{70}{100} \)  
   b) .9 = \( \frac{90}{100} \)  
   c) .1 = \( \frac{10}{100} \)

4. Write the numbers in order from least to greatest by first changing all of the decimals to fractions with denominator 100.
   a) .3 \( \frac{30}{100} \) .9 \( \frac{90}{100} \) .45 \( \frac{45}{100} \)  
   b) \( \frac{37}{100} \) .8 \( \frac{80}{100} \) .32 \( \frac{32}{100} \)  
   c) 1.4 \( \frac{140}{100} \) \( \frac{34}{100} \) 1.35 \( \frac{135}{100} \)

5. Change \( \frac{27}{10} \) to a mixed fraction by shading the correct number of pieces.
   Mixed Fraction: ________

6. Change the following improper fractions to mixed fractions.
   a) \( \frac{25}{10} \)  
   b) \( \frac{37}{10} \)  
   c) \( \frac{86}{10} \)  
   d) \( \frac{60}{10} \)  
   e) \( \frac{186}{100} \)  
   f) \( \frac{175}{100} \)

7. Change the following improper fractions to decimals by first writing them as mixed fractions.
   a) \( \frac{35}{10} = 3 \frac{5}{10} = 3.5 \)  
   b) \( \frac{38}{10} \)  
   c) \( \frac{87}{10} \)  
   d) \( \frac{53}{10} \)  
   e) \( \frac{153}{100} \)  
   f) \( \frac{342}{100} \)

o. Which is greater, \( \frac{23}{10} \) or 2.4? Explain.

9. Write 5 decimals greater than 1.32 and less than 1.4
NS6-81: Ordering Fractions and Decimals (continued)

10. Shade $\frac{1}{2}$ of the squares. Write 2 fractions and 2 decimals for $\frac{1}{2}$.

   Fractions: $\frac{1}{2} = \frac{10}{20} = \frac{100}{200}$

   Decimals: $\frac{1}{2} = \text{____} = \text{____}$

11. Shade $\frac{1}{5}$ of the boxes. Write 2 fractions and 2 decimals for $\frac{1}{5}$.

   Fractions: $\frac{1}{5} = \frac{10}{50} = \frac{100}{500}$

   Decimals: $\frac{1}{5} = \text{____} = \text{____}$

12. Write equivalent fractions.
   
   a) $\frac{2}{5} = \frac{10}{50} = \frac{100}{500}$
   
   b) $\frac{3}{5} = \frac{15}{150} = \frac{150}{1500}$
   
   c) $\frac{4}{5} = \frac{20}{100} = \frac{200}{1000}$

13. Shade $\frac{1}{4}$ of the squares. Write a fraction and a decimal for $\frac{1}{4}$ and $\frac{3}{4}$.

   Fraction: $\frac{1}{4} = \frac{25}{100}$
   
   Decimal: $\frac{1}{4} = \text{____}$

   Fraction: $\frac{3}{4} = \frac{75}{100}$
   
   Decimal: $\frac{3}{4} = \text{____}$

14. Circle the greater number.
   HINT: First change all fractions and decimals to fractions with denominator 100.

   a) $\frac{3}{4} \quad .72$
   
   b) $\frac{1}{2} \quad .53$
   
   c) $\frac{3}{5} \quad .87$

15. Write the numbers in order from least to greatest. Explain how you found your answer.

   a) $0.08 \quad 0.42 \quad \frac{3}{4}$
   
   b) $\frac{1}{2} \quad \frac{4}{5} \quad .35$
   
   c) $\frac{3}{5} \quad .45 \quad \frac{1}{2}$

16. How does knowing that $\frac{1}{4} = 0.25$ help you find the decimal form of $\frac{3}{4}$?

17. Explain how you know 0.65 is greater than $\frac{1}{2}$. 

Number Sense 2