Carlos West

1. $14 \in \{1,2,3,\ldots,15\}$
   True

2. $11 \notin \{1,2,3,\ldots,40\}$
   False

3. $x \mid x \in N$ and x is greater than 15
   $\{16,17,18,\ldots\}$

4. $x \mid x \in N$ and x lies between 5 and 9
   $\{6,7,8\}$

5. $\{5,7,9\} \boxed{\subset} \{4,5,6,7,9\}$

6. $\{2,26,31\} \boxed{\not\subset} \{16,26,31,41\}$

7. $\{1,3,5,7,9,11\}$ subsets # & proper
   $2^6 = 64 \quad 64-1 \quad \boxed{64:63}$

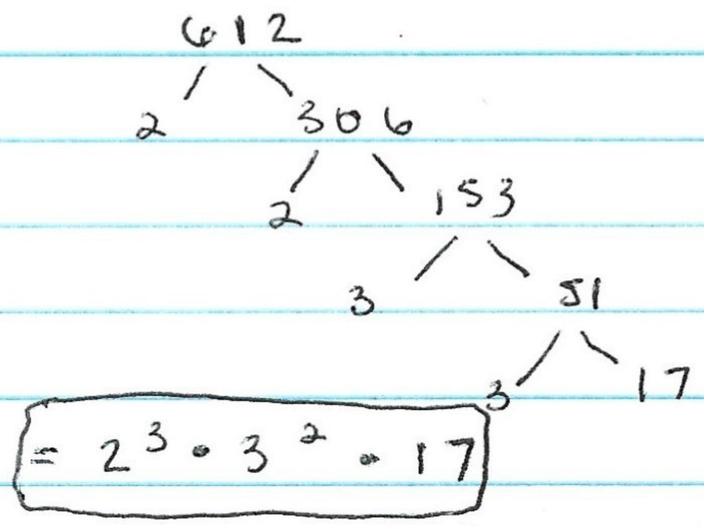
8. $Q = \{2,4,b,d\} \quad U = \{1,2,4,5,a,b,c,d,e\}$
   $Q' = \{1,5,a,c,e\}$

9) $A \cap B$ - $A = \{a,s,v,y,w\}$, $B = \{a,s,y\}$
   $= \{a,s,y\}$

10) $B \cup C$ - $B = \{a,s,y,z\}$ $C = \{v,w,x,y,z\}$
    $= \{a,s,y,z,v,w,x\}$

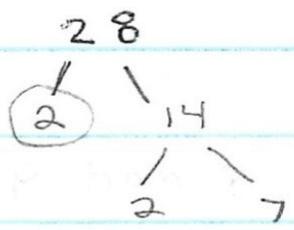
11. $A \cap (B \cup C)$ - $B \cup C = \{a,s,y,z,v,w,x\}$ $A = \{a,s,v,y,w\}$
    $= \{a,s,y,w\}$

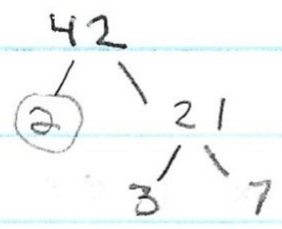
12.

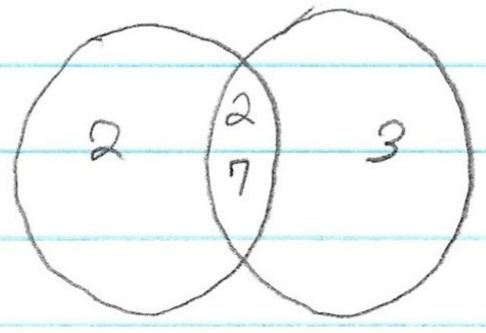


$= 2^3 \cdot 3^2 \cdot 17$

13.

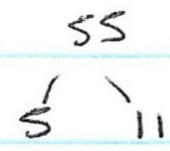


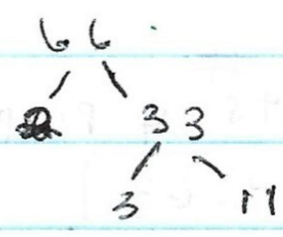




$GCD(28,42) = 2 \cdot 7 = 14$

14. LCM (55 and 66)





LCM (55, 66) = 11

15. $-71 \boxed{<} -20$ (less than)

16. $|-21| = 2$

17. $-11 + 19 = -30$

18. $(-14)(-17) =$ calc. $-14 \times -17 = 238$

19. $(-9)^2 = 81$ $(-9 \cdot -9 = \boxed{81}$

21. $54/0 =$ undefined

20. $(-48) \div (-8) = 48/8 = \boxed{6}$

22. $1 - 5(-6+2) = 1 - 5(-4) = 1 + 20 = \boxed{21}$

23. $4^2 - 8 \div 2^2 \cdot 4 - 2 = 16 - 8 \div 4 \cdot 4 - 2$

$= 16 - 2^3 / 2^2 \times 4 - 2 \quad = 16 - 2 \times 4 - 2 \quad = 16 - 8 - 2$

(=6)

24. $5\,6/7$ $\quad 7\times5=35+6=41$

$=\boxed{41/7}$

25. $5/8 = 5\div 8 = \boxed{0.625}$

26. $\frac{7}{11}\div\frac{4}{17}=\frac{7}{11}\times\frac{17}{4}=\boxed{\frac{119}{44}}$

27. $\left(\frac{1}{2}+\frac{1}{3}\right)\div\left(\frac{1}{2}+\frac{1}{7}\right)$

$\left(\frac{3}{6}+\frac{2}{6}\right)\div\left(\frac{7}{14}+\frac{2}{14}\right)$

$\frac{5}{6}\cdot\frac{14}{9}=\frac{70^{12}}{54_{12}}=\boxed{\frac{35}{27}}$ or $1\frac{8}{27}$

28. $\frac{221}{663}=\boxed{\frac{1}{3}}$

29. $\frac{5}{8}+\frac{1}{10}=\frac{50}{80}+\frac{8}{80}=\frac{58}{80}=\boxed{\frac{29}{40}=1\frac{11}{40}}$ miles

30. $\sqrt{28}=\sqrt{2^2\cdot 7}=\boxed{2\sqrt{7}}$

31. $\sqrt{5}\cdot\sqrt{4}=\sqrt{4}=2=\boxed{2\sqrt{5}}$

32. $\sqrt{6}/\sqrt{3}\qquad\sqrt{6/3}=\boxed{\sqrt{2}}$

33. $3\sqrt{3}+18\sqrt{3}\qquad(3+18)\sqrt{3}=\boxed{21\sqrt{3}}$

34. $\frac{9}{\sqrt{2}}\cdot\frac{\sqrt{2}}{\sqrt{2}}=\boxed{\frac{9\sqrt{2}}{2}}$