

R-1 day 2

Friday, August 23, 2013
9:03 AM

pg. 10 $\neq 29, 30, 35, 37, 41-49$

29. If $ab=0$, $a=0$ OR $b=0$.

30. If $ab=1$, $a \neq 1$ OR $b \neq 1$ but could. There are lots of possibilities!

35. A $\{1, \sqrt{144}\}$

B $\{-3, 0, 1, \sqrt{144}\}$

C $\{-3, -2/3, 0, 1, 9/5, \sqrt{144}\}$

D $\{\sqrt{3}\}$

37. A $8/9 \approx .\overline{88}$ repeating

B $3/11 \approx .\overline{2727}$ repeating

C $\sqrt{5} \approx 2.2361$ non rep.
Non term.

D $11/8 \approx 1.375$ terminating

41. The difference of any two natural numbers is NOT a natural number

42. The quotient of any two nonzero integers is NOT an integer.

43. The sum of any two rational numbers IS a rational number.

44. The sum of any two irrational numbers is NOT an irrational number. Example - positive root 2 and negative root 2.
Only need a counterexample.

45. The product of any two irrational numbers is NOT an irrational number. Example $1/\sqrt{2}$ and $\sqrt{2}$.

46. The product of any two rational numbers IS a rational number.

47. The multiplicative inverse of any irrational number IS an irrational number.

48. The multiplicative inverse of any nonzero rational number IS a rational number.

$$49. \quad m = 0.0\overline{909}$$

$$100m = 9.\overline{09}$$

$$100m - m = 9.\overline{09} - m$$

$$100m - m = 9.\overline{09} - 0.0\overline{909}$$

$$99m = 9$$

$$m = \frac{1}{11}$$