

natural number: $N = \{1, 2, 3, 4, 5, \dots\}$ **whole number:** $W = \{0, 1, 2, 3, 4, 5, \dots\}$ **integer:** $Z = \{\dots, -3, -2, -1, 0, 1, 2, \dots\}$ **rational number:** $Q = \{a/b \mid a \text{ and } b \text{ integers and } b \neq 0\}$ **irrational number:** I_r or $\sim Q =$ all non-terminating, non-repeating decimals** answers vary!*

1. Give an example of a whole number that is not a natural number. 0 ← only answer!
 2. Give an example of an integer that is not a whole number. -3 ← must be negative!
 3. Give an example of a rational number that is not an integer. 1/2 ← must be a fraction!
 4. Give an example of an irrational number. $\sqrt{5}$
 5. Give an example of a complex number that is not an integer. $3+2i$ ← must contain "i"!
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6. Give an example of two integers whose sum is a natural number. $-4+7=3$
 7. Give an example of two rational numbers whose sum is an integer. $\frac{1}{4} + \frac{3}{4} = 1$
 8. Give an example of two complex numbers whose sum is a real number. $(2+3i) + (2-3i) = 4$
 9. Give an example of two rational numbers whose sum is a rational number. $\frac{1}{2} + \frac{1}{3} = \frac{5}{6}$
 10. Give an example of two irrational numbers whose sum is an irrational number. $2\sqrt{3} + 4\sqrt{3} = 6\sqrt{3}$
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11. Give an example of two integers whose product is a natural number. $(-2)(-5) = 10$
 12. Give an example of two rational numbers whose product is an integer. $\frac{4}{3} \cdot \frac{3}{2} = 2$
 13. Give an example of two complex numbers whose product is a real number. $(2+i)(2-i) = 5$
 14. Give an example of two rational numbers whose product is a rational number. $\frac{1}{2} \cdot \frac{1}{3} = \frac{1}{6}$
 15. Give an example of two irrational numbers whose product is an irrational number. $\sqrt{2} \cdot \sqrt{5} = \sqrt{10}$
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16. Give an example of two trinomials whose sum is a binomial. $(x^2+3x+5) + (x^2-3x+2) = 2x^2+7$
 17. Give an example of two binomials whose sum is a trinomial. $(x+4) + (x^2+3x-1) = x^2+4x+3$
 18. Give an example of two binomials whose sum is a binomial. $(3x-5) + (2x-4) = 5x-9$
 19. Give an example of two binomials whose product is a binomial. $(x+3)(x-3) = x^2-9$
 20. Give an example of two polynomials whose product is a trinomial. $3x(x^2+2x+5) = 3x^3+6x^2+15x$