Operations Meanings and Real Numbers B3

Name the sets of real numbers to which each of the following numbers belongs.

1. -7
2. $\frac{10}{13}$
3. 2.716492...
4. $\sqrt{15}$
5. 7.23
6. $\sqrt{49}$
7. 4
8. 8.975
9. $\sqrt{-16}$
10. 0

Perform the indicated operations, and state the sets of real numbers to which the answer belongs.

11) 16 + 9
12) 12 + (-19)
13) .4 × 15
14) 8(-.125)
15) -12 ÷ (-9)
16) $\sqrt{36}$
17) $\sqrt{20}$
18) $\sqrt{-9}$
19) $\sqrt[3]{64}$
20) $\sqrt[3]{-27}$

Explain the meaning of the following operations.

21) 17 – 6

22) 11 × 4

23) 7^5

24) 20 ÷ 5

25) Why is 20 ÷ 5 defined?

26) Why is 13 ÷ 0 undefined?

27) Why is 0 ÷ 0 undefined?

State the property of real numbers illustrated in each problem.

28) k(1) = k
29) g + (-g) = 0
30) 7(b · 4) = (7 · b)4
31) t + z = z + t
32) 7(b + c) = 7(b) + 7(c)
33) (z/5)(5/z) = 1
34) 4(d) = d(4)
35) w + 0 = w