

## Warm-Up

1. Which of the following is equivalent to  $2^{-3}$ ?

a.  $(-2)(-2)(-2)$

c.  $\frac{1}{(2)(2)(2)}$

b.  $-\frac{1}{(2)(2)(2)}$

d.  $(2)(2)(2)$

2. Evaluate  $2w^{-2}z^0$  for  $w = 10$  and  $z = 2$ .

a.  $\frac{1}{200}$

c.  $\frac{1}{25}$

b.  $\frac{1}{50}$

d.  $\frac{1}{20}$

3. How could you write  $8^{27}$  as a product of powers?

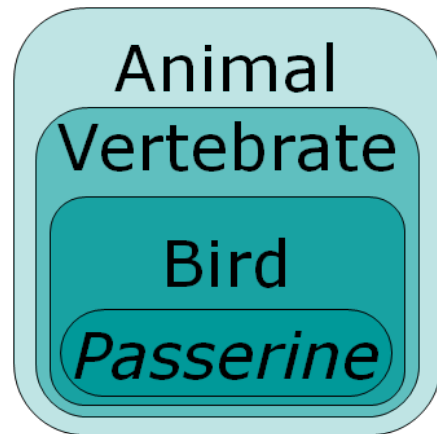
a. Multiply two powers, both with a base of 8. The sum of the exponents should be 27.

b. A power with a base of 64 and 729 as the exponent.

c. Multiply two powers, both with exponents of 27. The product of the bases should be 8.

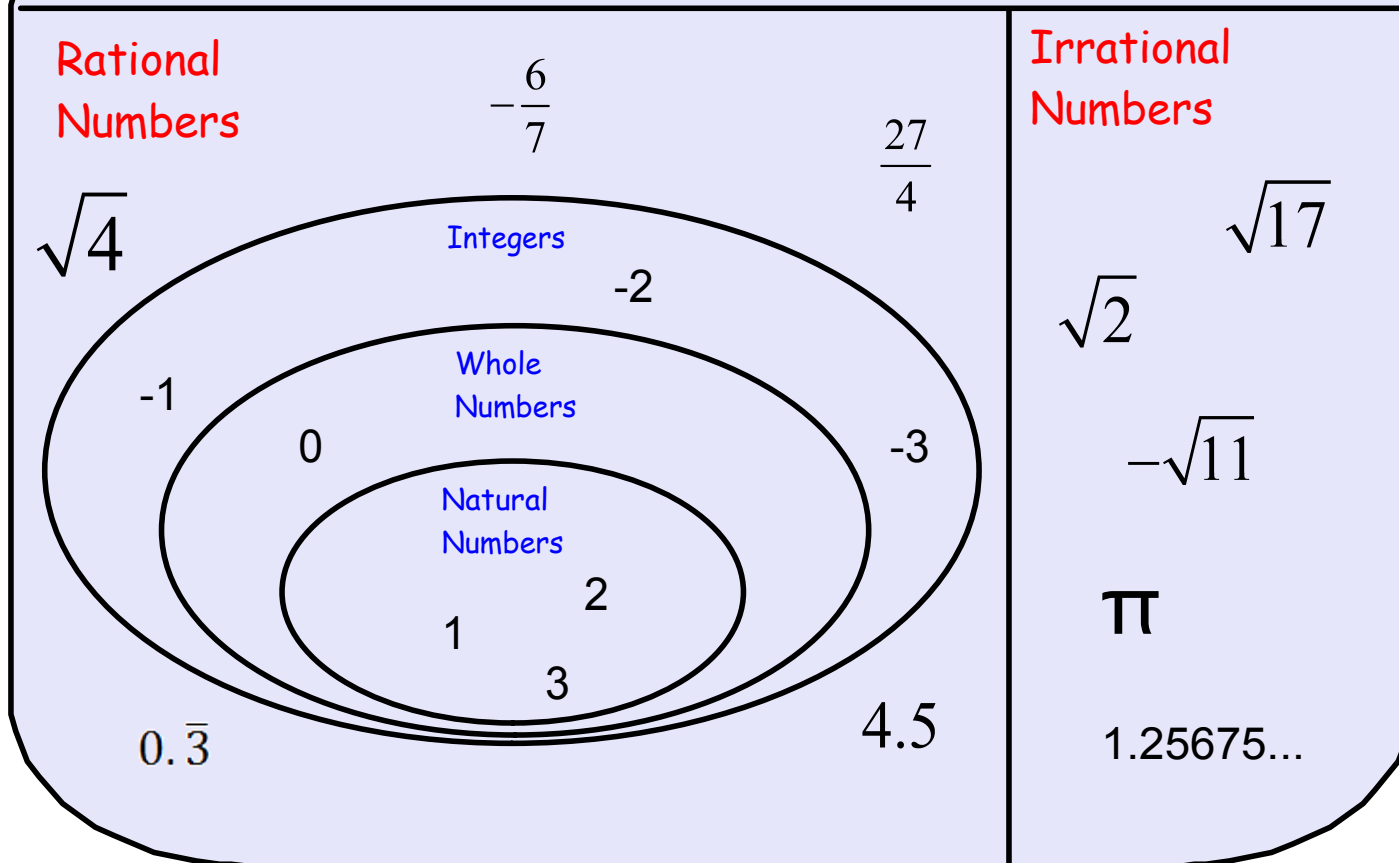
d. Multiply two powers, both with a base of 8. The product of the exponents should be 27.

Biologists classify animals based on shared characteristics. The cardinal is an animal, a vertebrate, a bird, and a passerine (*or a perching bird*).



Numbers can also be classified into groups based on their characteristics.

# Real Numbers (all rational and irrational numbers)

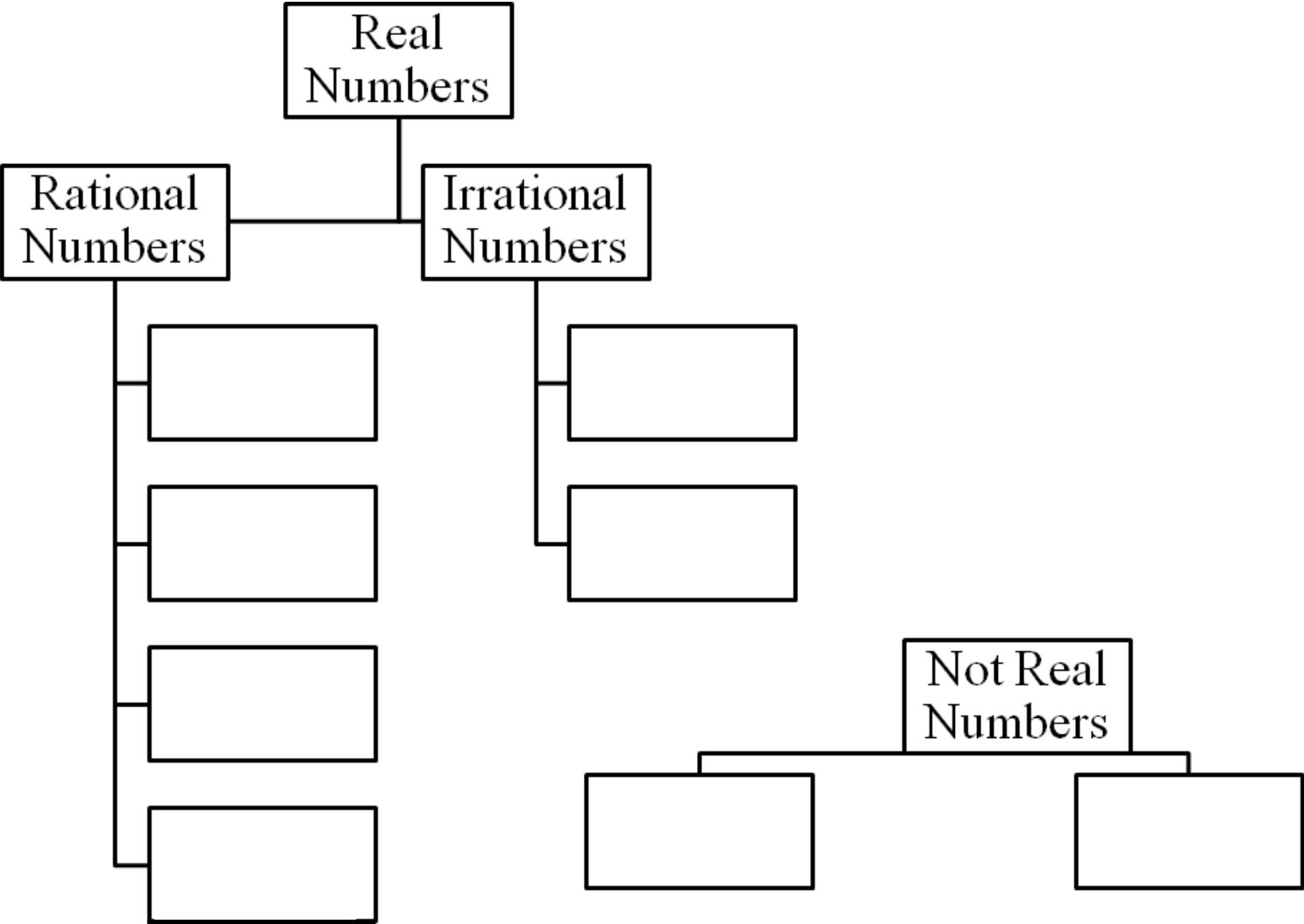


**Irrational Numbers** can only be written as decimals that do not terminate or repeat

**Rational Numbers** any number that can be written as a fraction

$\sqrt{-1}$  is *imaginary*

$\frac{8}{0}$  is *undefined*....it does live in the real or imaginary world



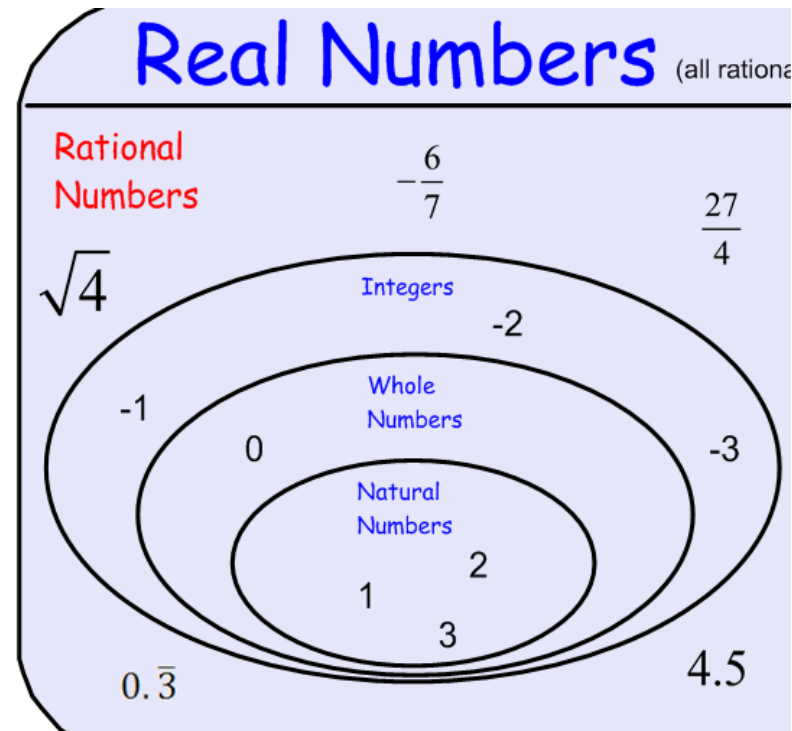
Write all names that apply to each number.

1.  $\sqrt{10}$

2.  $\sqrt{49}$

3. 0.25

4.  $-\frac{\sqrt{16}}{3}$



State if each number is rational, irrational, or not a real number.

5.  $\sqrt{9}$

6.  $\sqrt{\frac{9}{16}}$

7.  $\sqrt{72}$

8.  $-\sqrt{-3}$

9.  $-\sqrt{25}$

10.  $\sqrt{-9}$

11.  $\sqrt{\frac{25}{-36}}$

12.  $\frac{0}{0}$

Write all names that apply to each number.

16.  $\sqrt{35}$

17.  $\frac{5}{8}$

18. 3

19.  $\frac{\sqrt{81}}{-3}$

State if each number is rational, irrational, or not a real number.

Justify your answer.

20.  $\frac{\sqrt{-16}}{-4}$

21.  $-\sqrt{\frac{0}{4}}$

22.  $\sqrt{-8(-2)}$

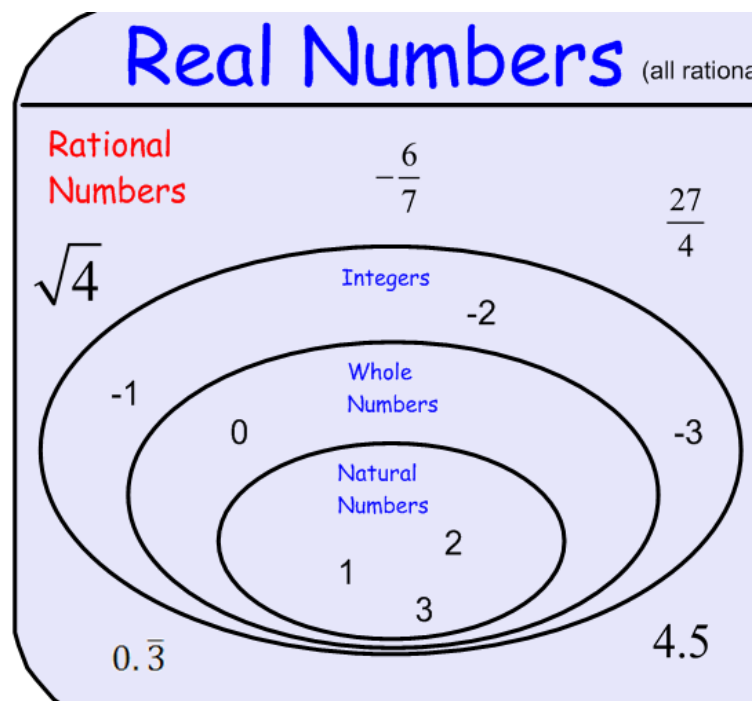
23.  $-\sqrt{3}$

24.  $\frac{\sqrt{25}}{8}$

25.  $\sqrt{14}$

26.  $\sqrt{-\frac{1}{4}}$

27.  $-\sqrt{\frac{4}{0}}$





Write all names that apply to each number.

31. 6

32.  $-\sqrt{36}$

33.  $\sqrt{10}$

34.  $\frac{1}{3}$

35.  $\sqrt{2.56}$

36.  $\sqrt{36} + 6$

37.  $0.\overline{21}$

38.  $\frac{\sqrt{100}}{20}$

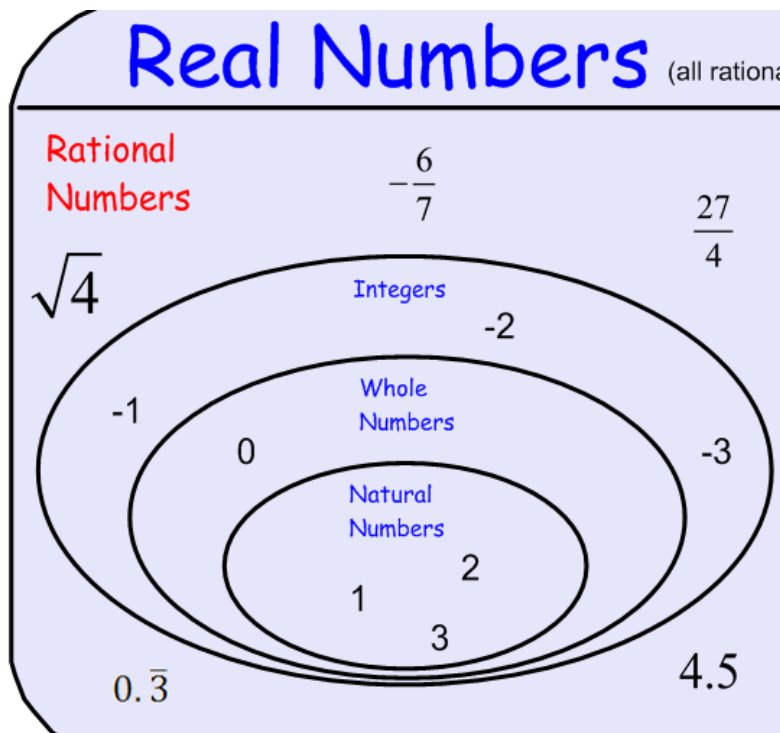
39. -4.3134

40.  $\sqrt{4.5}$

41. -312

42.  $\frac{0}{7}$

43. Explain the difference between  $-\sqrt{16}$  and  $\sqrt{-16}$ .



# ABC Book

Pg. 21 (1-15)

Pg. 24 (2-24)

Pg. 21

1.7  
2.9  
3.5  
4.4  
5.11  
6.25  
7.10  
8.17  
9.14  
10.6  
11.2  
12.30  
13.8  
14.3  
15.12

Pg. 24

2. 5, RATIONAL, YES  
3. NO  
4. YES  
5. YES, RATIONAL  
6. NO  
7. I  
8. I  
9. R  
10. R  
11. R  
12. I  
13. I  
14. R  
15. R

16. R  
17. R  
18. I  
19. R  
20. R  
21. R  
22. R  
23. R  
24. I