1.1 - 1.4 review key

1] a. 8 real, rational, integer, whole, natural

b. $\sqrt{3}$ irrational, real

c. -9 integer, rational, real

2] yes, always rational. The only way to make a rational irrational would be to multiply/add etc to irrational.

3] rational, same as above

4] a. $\frac{20\,ft}{sec}x + 14\,min\left(\frac{60\,sec}{min}\right) + \frac{12\,ft}{sec}x = 18\,min\left(\frac{60\,sec}{1\,min}\right)$

x = distance from hive to flower bed

b. $20x + 840 + 12x = 1080$
$-840 \qquad -840$

$\frac{32x}{32} = \frac{240}{32}$

$x = 7.5$

Flower bed is 7.5 feet from the hive

5] $25(.45) = .15x + .65(25-x)$ Let x = 15% solution

$11.25 = .15x + 16.25 - .65x$

$\frac{-5}{-.5} = \frac{-.5x}{-.5}$

$10 = x$

10 l of 15% solution
15 l of 65% solution

6] $4(2x+8) = -30+22$

$\frac{4(2x+8)}{4} = \frac{-8}{4}$

$2x+8 = -2$

$2x = -10$

$\boxed{x = -5}$

7] $\left(\frac{3}{4}y - \frac{1}{2} = -2\right)4$

$3y - 2 = 8$

$3y = 8$

$\boxed{y = 8/3}$

8] L irrational

10] $x - 4y = 11$

$-4y = 11 - x$

$\boxed{y = \frac{11-x}{-4}}$

11] 8

12) $-14, -2\sqrt{5}, -1.87, \frac{8}{5}, 3.06$

13) $12 + 6g = 13 + 5g$

$-12 \quad -5g \qquad -12 \quad -5g$

$\boxed{g = 1}$

14) $\left(\frac{5}{5}\right)\frac{3}{8} - \frac{7}{10}\left(\frac{4}{4}\right)$

$\frac{15}{40} - \frac{28}{40} = \boxed{\frac{-13}{40}}$

15) $53 = 50 + \frac{N-40}{4}$

$-50 \quad -50$

$4(3) = \left(\frac{N-40}{4}\right)4$

$12 = N - 40$

$52 = N$

16) $9(x+2) + 9 = 4x + 5(5 + x)$

$9x + 18 + 9 = 4x + 25 + 5x$

$9x + 27 = 9x + 25$

$-9x \qquad -9x$

$27 = 25$

no solution

17) let x = 30 day period

$60 - 2.5x = 50 - 2x$

$-50 + 2.5x \qquad -50 + 2.5x$

$\frac{10}{.5} = \frac{.5x}{.5}$

$20 = x$

$50 - 2(20) = 10$

They will have \$10 on card

18) $\frac{D}{AB} = \frac{ABC}{AB}$

$\boxed{\frac{D}{AB} = C}$

19) $\frac{A}{h} = \left(\frac{b+k}{2}\right)\frac{h}{h}$

$\left(\frac{A}{h}\right) = \left(\frac{b+k}{2}\right)2$

$\frac{2A}{h} = b + k$

$\boxed{\frac{2A}{h} - k = b}$

20) $7 + 15 \div 3 \times 2 + 4(1+2)^2$

$7 + 5 \times 2 + 4(3)^2$

$7 + 10 + 4(9)$

$17 + 36$

$\boxed{43}$