Solving Quad EQ

1. What are the solutions to this quadratic equation? *(no calculator)*

$$\left(2x-3\right)\left(\frac{2}{3}x+6\right)=0$$

A) $\frac{3}{5}$, 3

B) 4 , 2

C) $\frac{3}{2}$, -9

D) $-\frac{3}{2}$, -8

2. If $x^2+5x=36$, then what is $x+4$ if $x>0$? *(no calculator)*

A) 13

B) 8

C) 4

D) 0

3. What are the solutions to $5x^2+30x-23=0$? *(calculator)*

A) $x=\frac{-30\pm\sqrt{1360}}{10}$

B) $x=\frac{30\pm\sqrt{1236}}{60}$

C) $x=\frac{-30\pm\sqrt{440}}{10}$

D) $x=\frac{23\pm\sqrt{1360}}{10}$

4. What is the product of all possible values of x that satisfy $12x^2+14x-40=0$? *(no calculator)*

A) $\frac{8}{15}$

B) $-\frac{8}{15}$

C) $-\frac{10}{3}$

D) $\frac{10}{3}$

5. If $\left(ax+2\right)\left(bx+5\right)=21x^2+41x+10$ and $a+b=10$, then what is the value of a if $a>b$? *(no calculator)*

A) 3

B) 6

C) 4

D) 7

6. What are the solutions to $x^2=3x+1$? *(no calculator)*

A) $x=\frac{3\pm\sqrt{13}}{2}$

B) $x=\frac{3\pm\sqrt{5}}{2}$

C) $x=-\frac{3\pm\sqrt{5}}{2}$

D) $x=-\frac{3\pm\sqrt{13}}{2}$

7. The function k is defined by $k\left(x\right)=4x^2+3x+c$. If $c=5x+3$, then what are the solutions to this quadratic function? *(no calculator)*

A) $-\frac{1}{2}$, $-\frac{3}{2}$

B) $-\frac{1}{2}$, $-\frac{3}{2}$

C) $-\frac{1}{2}$, $-\frac{3}{2}$

D) $-\frac{1}{2}$, $-\frac{3}{2}$

8. If $18x^2-108x=-144$, what is the sum of the values x could be to satisfy this equation? *(no calculator)*

A) 2

B) 4

C) 6

D) 8

9. For the function $h(x)$ defined below, a is a nonzero integer and $h(3)=9$. What is the value of $h(6)$? *(no calculator)*

$$x^2+ax-12=h(x)$$

A) -36
B) 48
C) 36
D) 0

10. Which of the following values for x would make the expression below undefined? *(no calculator)*

$$\frac{4}{x^2+6x-40}$$

A) -10 and 4
B) 2 and -6
C) 3 and 5
D) -12 and 4