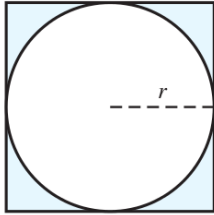1. A blank circular disk is cut from the square metal stock shown. Determine to the nearest tenth of a cm the radius of the disk if the area of metal wasted is 300 cm2.

A. The radius is 19.3 cm.

B. The radius is 18.5 cm.

C. The radius is 17.9 cm.

D. The radius is 18.8 cm.

E. The radius is 18 cm.

F. The radius is 19.4 cm.

G. The radius is 18.7 cm.

H. The radius is 18.9 cm.

2. Solve the quadratic equation by completing the square. (Don't simplify the radical expression.)

$$2\beta^2 + 8\beta - 40 = 0$$

A. $\beta = -2 \pm \sqrt{\frac{233}{4}}$

B. $\beta = -2 \pm \sqrt{24}$

C. $\beta = -2 \pm \sqrt{110}$

D. $\beta = 2 \pm \sqrt{69}$

E. $\beta = -2 \pm \sqrt{38}$

F. $\beta = 2 \pm \sqrt{\frac{101}{4}}$

G. $\beta = 2 \pm \sqrt{\frac{397}{4}}$

H. $\beta = 2 \pm \sqrt{\frac{125}{4}}$

3. Solve the quadratic equation by completing the square. (Don't simplify the radical expression.)

$$\theta^2 - 14\theta - 4 = 0$$

A. $\theta = 7 \pm \sqrt{19}$

B. $\theta = 7 \pm \sqrt{\frac{89}{4}}$

C. $\theta = -7 \pm \sqrt{\frac{89}{4}}$

D. $\theta = -7 \pm \sqrt{105}$

E. $\theta = 7 \pm \sqrt{13}$

F. $\theta = -7 \pm \sqrt{94}$

G. $\theta = -7 \pm \sqrt{\frac{181}{4}}$

H. $\theta = 7 \pm \sqrt{53}$

4. Complete the square by filling in the missing number. $w^2 - \frac{1}{3}w + \underline{\hspace{2cm}}$

A. $-\frac{25}{16}$

B. $-\frac{1}{9}$

C. $\frac{1}{9}$

D. $\frac{49}{100}$

E. $-\frac{49}{100}$

F. $\frac{1}{36}$

G. $\frac{25}{16}$

H. $-\frac{1}{36}$

5. Complete the square by filling in the missing number. $c^2 + 4c+$_____

A. $\frac{121}{4}$

B. 4

C. 81

D. $\frac{49}{4}$

E. 1

F. 16

G. 100

H. 9

6. Complete the square by filling in the missing number. $t^2 - 4t+$_____

A. $\frac{169}{4}$

B. 49

C. $\frac{289}{4}$

D. -4

E. 4

F. $-\frac{169}{4}$

G. $-\frac{289}{4}$

H. -49

7. Complete the square by filling in the missing number. $\theta^2 + \frac{4}{3}\theta +$ _____

A. $\frac{9}{16}$

B. $\frac{9}{100}$

C. $\frac{25}{36}$

D. $\frac{1}{64}$

E. $\frac{25}{16}$

F. $\frac{1}{9}$

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

H. $\frac{4}{9}$

8. Complete the square by filling in the missing number. $r^2 - \frac{7}{5}r +$ _____

A. $\frac{1}{16}$

B. $-\frac{1}{16}$

C. $\frac{9}{25}$

D. $-\frac{9}{16}$

E. $-\frac{9}{25}$

F. $-\frac{49}{100}$

G. $\frac{9}{16}$

H. $\frac{49}{100}$