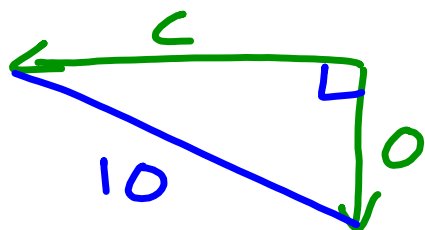


HW: Worksheet/Written:1-18

9



	r	v	d
c	$\sigma + 2$	1	$\sigma + 2$
o	$\sigma$	1	$\sigma$

$$\sigma^2 + (\sigma + 2)^2 = 10^2$$

$$\sigma^2 + \sigma^2 + 4\sigma + 4 = 100$$

$$100 - 100$$

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$$2\sigma^2 + 4\sigma - 96 = 0$$

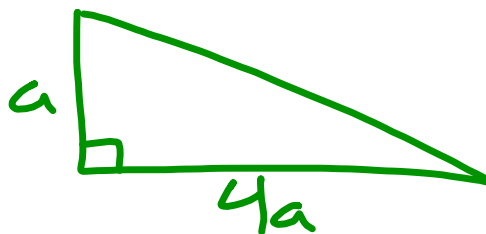
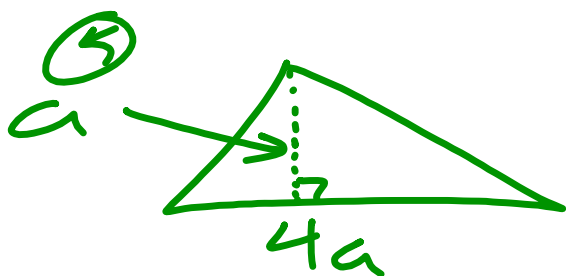

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$$\sigma^2 + 2\sigma - 48 = 0$$

$$(\sigma + 8)(\sigma - 6) = 0$$

$$\sigma = \cancel{-8}, 6$$

Olaf  $\rightarrow$  6 mi/h  
 Cindy  $\rightarrow$  8 mi/h



$$A = \frac{1}{2}bh$$

$$\frac{1}{2} \cdot 4a \cdot a = 2a^2$$

$$\frac{2a^2}{2} = \frac{162}{2}$$

$$\frac{2a^2}{2} = 81$$

$$a = 9$$

9cm

$$\sqrt{(x+3)^2} = \sqrt{100}$$

$$x+3 = \pm 10$$

$$\begin{array}{r} x+3 = \pm 10 \\ -3 \quad -3 \\ \hline x = -3 \pm 10, = 7, -13 \end{array}$$

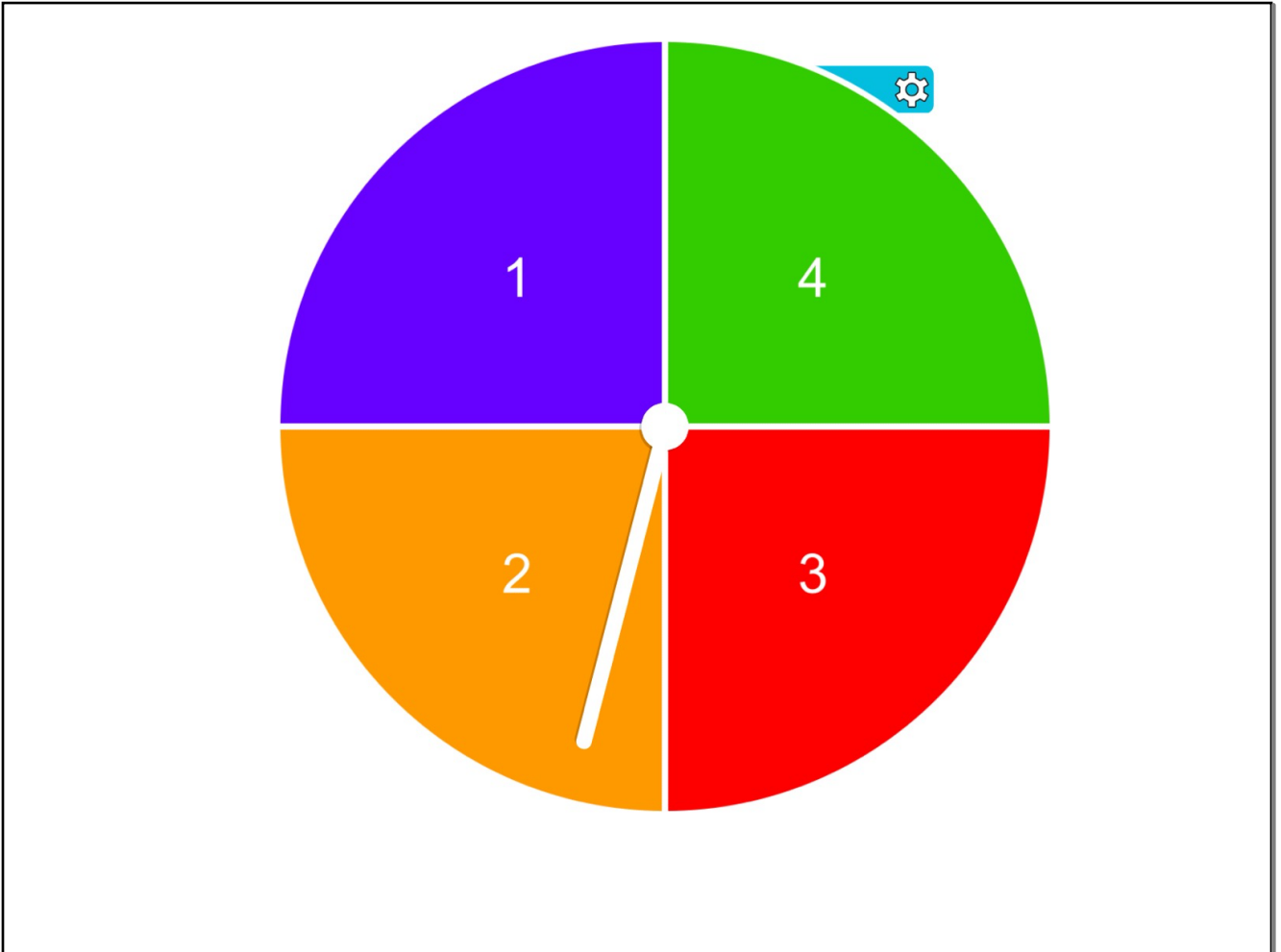
7 cm

$$\begin{aligned} \textcircled{3} \quad & X + X^2 = 56 \\ & \quad \quad -56 \quad -56 \\ \hline & X^2 + X - 56 = 0 \\ & (X+8)(X-7) = 0 \\ & X = \textcircled{-8, 7} \end{aligned}$$

# HW Solutions

## Methods for Solving a Quadratic Equation

Quadratic Formula	Equation in the form $ax^2 + bx + c = 0$
Factoring	Equation in the form $ax^2 + bx = 0$ or if factors are easily seen
Inverse Operations	Equation in the form $ax^2 + c = 0$
Completing the Square	Equation in the form $x^2 + bx + c = 0$ and $b$ is an even number.





$$c^2 - 4c - 2 = 0$$

$$4 \pm \frac{\sqrt{16 - 4(-2)(1)}}{2}$$

$$\frac{4 \pm \sqrt{24}}{2}$$

$$\frac{4 \pm 2\sqrt{6}}{2}$$

$$2 \pm \sqrt{6}$$

$$3p^2 - 4p + 1 = 0$$

$$(3p - 1)(p - 1) = 0$$

$$\frac{4 \pm \sqrt{16 - 4(3)(1)}}{6}$$

$$\frac{4 \pm \sqrt{16 - 12}}{6}$$

$$\frac{4 \pm \sqrt{4}}{6}$$

$$\frac{4 \pm 2}{6}$$

$$1, \frac{1}{3}$$

$$x^2 + 6x + 8 = 0$$

$$\frac{-6 \pm \sqrt{36 - 4(8)}}{2}$$
$$\frac{-6 \pm \sqrt{4}}{2} \quad \frac{-6 \pm 2}{2}$$

-4, -2

$$12x^2 - 5x = 0$$

$$x(12x - 5) = 0$$

$$0, \frac{5}{12}$$

$$12x - 5 = 0$$
$$\frac{12x}{12} = \frac{5}{12}$$

$$x^2 - 12x + 4 = 17$$

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$$x^2 - 12x - 13 = 0 \rightarrow (x - 13)(x + 1) = 0$$

$$\frac{12 \pm \sqrt{144 - 4(x+13)}}{2}$$

$$\frac{12 \pm \sqrt{196}}{2} \quad x = \underline{13}, -1$$

$$\frac{12 \pm 14}{2}$$

$$12y^2 + 24y = 5$$

$$x^2 + 7x - 11 = 7$$

$$2x^2 - 16x = 0$$



$$5x^2 - 7 = 0$$

