### Lesson 1 Practice Problems

1. Here is a clock face. For each time given, name the number the second hand points at.
	1. 15 seconds after 1:00.
	2. 30 seconds after 1:00.
	3. 1 minute after 1:00.
	4. 5 minutes after 1:00.
* 
1. At 12:15, the end of the minute hand of a clock is 8 feet above the ground. At 12:30, it is 6.5 feet off the ground.
	1. How long is the minute hand of the clock? Explain how you know.
	2. How high is the clock above the ground?
2. Here is a point on a circle centered at $\left(0,0\right)$.
* Which equation defines the circle?
* 
	1. $x+y=10$
	2. $x^{2}+y^{2}=10$
	3. $x^{2}+y^{2}=100$
	4. $\left(x−6\right)^{2}+\left(y−8\right)^{2}=100$
1. The point $\left(3,4\right)$ is on a circle centered at $\left(0,0\right)$. Which of these points lie on the circle? Select **all** that apply.
	1. $\left(-3,-4\right)$
	2. $\left(4,3\right)$
	3. $\left(0,5\right)$
	4. $\left(0,0\right)$
	5. $\left(-5,0\right)$
2. Match each polynomial with its end behavior as $x$ gets larger and larger in the positive and negative directions. (Note: some of the answer choices are not used and some answer choices may be used more than once.)
	1. $f\left(x\right)=\frac{6}{x−6}$
	2. $g\left(x\right)=\frac{3x}{x−6}$
	3. $h\left(x\right)=\frac{3x−18}{x−6}$
	4. $k\left(x\right)=\frac{3x^{2}−16x+12}{x−6}$
	5. $m\left(x\right)=\frac{\left(x+5\right)\left(x−4\right)\left(x−6\right)}{x−6}$
	6. The graph approaches $y=6$.
	7. The graph approaches $y=3$.
	8. The graph approaches $y=0$.
	9. The graph approaches $y=x^{2}+x−20$.
	10. The graph approaches $y=3x^{2}+16x−12$.
	11. The graph approaches $y=3x+2$.
	12. The graph approaches $y=x−3$.
* (From Unit 2, Lesson 19.)
1. Find the solution(s) to each equation.
	1. $x^{2}−6x+8=0$
	2. $x^{2}−6x+9=0$
	3. $x^{2}−6x+10=0$
* (From Unit 3, Lesson 18.)



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