### Lesson 11 Practice Problems

1. Write an equation for a line that passes through the origin and is perpendicular to $y=5x−2$.
2. Match each line with a perpendicular line.
	1. $y=5x+2$
	2. $y−2.25=-2\left(x−2\right)$
	3. the line through $\left(-1,5\right)$ and $\left(1,9\right)$
	4. the line through $\left(2,12\right)$ and $\left(17,9\right)$
	5. $y=-\frac{1}{2}x+5$
	6. $2x−4y=10$
3. The  rule $\left(x,y\right)\rightarrow \left(y,-x\right)$ takes a line to a perpendicular line. Select **all** the rules that take a line to a perpendicular line.
	1. $\left(x,y\right)\rightarrow \left(2y,-x\right)$
	2. $\left(x,y\right)\rightarrow \left(-y,-x\right)$
	3. $\left(x,y\right)\rightarrow \left(-y,x\right)$
	4. $\left(x,y\right)\rightarrow \left(0.5y,-2x\right)$
	5. $\left(x,y\right)\rightarrow \left(4y,-4x\right)$
	6. Write an equation of the line with $x$-intercept $\left(3,0\right)$ and $y$-intercept $\left(0,-4\right)$.
	7. Write an equation of a line parallel to the line $y−5=\frac{4}{3}\left(x−2\right)$.
* (From Unit 6, Lesson 10.)
1. Lines $ℓ$ and $p$ are parallel. Select **all** true statements.
* 
	1. Triangle $ADB$ is similar to triangle $CEF$.
	2. Triangle $ADB$ is congruent to triangle $CEF$.
	3. The slope of line $ℓ$ is equal to the slope of line $p$.
	4. $sin\left(A\right)=sin\left(C\right)$
	5. $sin\left(B\right)=cos\left(C\right)$
* (From Unit 6, Lesson 10.)
1. Select the equation that states $\left(x,y\right)$ is the same distance from $\left(0,5\right)$ as it is from the line $y=-3$.
	1. $x^{2}+\left(y+5\right)^{2}=\left(y+3\right)^{2}$
	2. $x^{2}+\left(y−5\right)^{2}=\left(y+3\right)^{2}$
	3. $x^{2}+\left(y+5\right)^{2}=\left(y−3\right)^{2}$
	4. $x^{2}+\left(y−5\right)^{2}=\left(y−3\right)^{2}$
* (From Unit 6, Lesson 8.)
1. Select **all** equations that represent the graph shown.
* 
	1. $y=-x+2$
	2. $\left(y−3\right)=-\left(x+1\right)$
	3. $\left(y−3\right)=-x−1$
	4. $\left(y−3\right)=\left(x−1\right)$
	5. $\left(y+1\right)=-\left(x−3\right)$
* (From Unit 6, Lesson 9.)
1. Write a rule that describes this transformation.

| * original figure
 | * image
 |
| --- | --- |
| * $\left(3,2\right)$
 | * $\left(6,4\right)$
 |
| * $\left(4,-1\right)$
 | * $\left(8,-2\right)$
 |
| * $\left(5,1\right)$
 | * $\left(10,2\right)$
 |
| * $\left(7,3\right)$
 | * $\left(14,6\right)$
 |

* (From Unit 6, Lesson 3.)



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