Chapter 1 Additional practice

Absolute Value equations

1. $|x-2|+5=9$
2. $4|2x+7|=16$
3. $-2|5x-1|-3=-11$
4. $-2|x+3|=8$
5. $-3|2x+3|-5=-5$

Dimensional analysis

1. $\frac{13\ km}{h} \approx$ _____ $miles\ per\ hour$
2. $\frac{22L}{min} =$ _____ L/hr
3. $\frac{63mi}{h} =$ _____ $miles\ per\ second$
4. $3km/\min \approx$_____ mi/hr
5. $17gal/hr \approx$_____ qt/min
6. 6cm/min=_____ m/sec

Scale factor

1. A rectangle is dilated by a scale of 1/7. By what factor is the perimeter dilated? By what factor is the area dilated?
2. The dimensions of a rectangular prism are each scaled by a factor of 3. Compare the scale factor of the Volume of the original figure to the scale factor of the new volume.
3. A circle is dilated by a scale of ½. What is the scale factor of the area?
4. The dimensions of a triangular prism is scaled by a factor of $\frac{3}{2}$. Can that same factor be used to find the new volume?

Answers:

Absolute Value equations

1. {-2, 6}
2. $\left\{-\frac{11}{2}, -\frac{3}{2}\right\}$
3. $\left\{-\frac{3}{5}, 1\right\}$
4. { }
5. $\left\{-\frac{3}{2}\right\}$

Dimensional analysis

1. 8.125
2. 1320
3. 0.0175
4. 112.5
5. 1.13
6. 0.0001

Scale factor

1. P: 1/7, A: 1/49
2. The scale factor of the new volume is the cube of the scale factor of the original figure. The new scale factor is 27.
3. ¼
4. No. The scale factor of the new figure will be the cube of the original prism. The new volume will be 9/4 the size of the original volume.