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**Give the factor by which each pre-image was multiplied to create the image. Use the scale factor to fill in any missing lengths.**

1. *mult. by 2*

2.

3.

4.

8.50 x 11.00 in

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**For each real-world context or circumstance determine the center of the dilation and the tool being used to do the dilation.**

7. Fran walks backward to a distance that will allow her family to all show up in the photo she is about to take.

Center: Fran  
Tool: Camera

8. The theatre technician plays with the zoom in and out buttons in effort to fill the entire movie screen with the image.

9. Melanie estimates the height of the waterfall by holding out her thumb and using it to see how many thumbs tall to the top of the waterfall from where she is standing. She then uses her thumb to see that a person at the base of the waterfall is half a thumb tall.

10. A digital animator creates artistic works on her computer. She is currently doing an animation that has several telephone poles along a street that goes off into the distance.

8.50 x 11.00 in

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**Determine whether the given representation is representative of a linear, exponential or quadratic function, classify as such and justify your reasoning.**

13.  $x^2$

X	Y
2	7
3	12
4	19
5	28

Type of function:  
Justification:

14.  $a^x$

Type of function:  
Justification:

15.  $y = 3x^2 + 3x$   
Type of function:  
Justification:

16.  $y = 7x - 10$   
Type of function:  
Justification:

8.50 x 11.00 in

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Determine whether the given representation is representative of a linear, exponential or quadratic function, classify as such and justify your reasoning.

13.  $x^2$

X	Y
2	7
3	12
4	19
5	28

$\begin{matrix} > +5 & > +2 \\ > +7 & > +2 \\ > +9 & > +2 \end{matrix}$

Type of function: Quadratic  
 Justification: 2nd diff. is 1st diff. 2 every time

14.  $a^x$

Type of function:  
 Justification:

15.  $y = 3x^2 + 3x$   
 Type of function:  
 Justification:

16.  $y = 7x - 10$   
 Type of function:  
 Justification:

8.50 x 11.00 in