## Unit 4 Lesson 6: Strategic Solving

### 1 Equal Perimeters (Warm up)

#### Student Task Statement

The triangle and the square have equal perimeters.

1. Find the value of $x$.
2. What is the perimeter of each of the figures?



### 2 Predicting Solutions

#### Student Task Statement

Without solving, identify whether these equations have a solution that is positive, negative, or zero.

1. $\frac{x}{6}=\frac{3x}{4}$
2. $7x=3.25$
3. $7x=32.5$
4. $3x+11=11$
5. $9−4x=4$
6. $-8+5x=-20$
7. $-\frac{1}{2}\left(-8+5x\right)=-20$

### 3 Which Would You Rather Solve?

#### Student Task Statement

Here are a lot of equations:

A. $-\frac{5}{6}\left(8+5b\right)=75+\frac{5}{3}b$

B. $-\frac{1}{2}\left(t+3\right)−10=-6.5$

C. $\frac{10−v}{4}=2\left(v+17\right)$

D. $2\left(4k+3\right)−13=2\left(18−k\right)−13$

E. $\frac{n}{7}−12=5n+5$

F. $3\left(c−1\right)+2\left(3c+1\right)=-\left(3c+1\right)$

G. $\frac{4m−3}{4}=-\frac{9+4m}{8}$

H. $p−5\left(p+4\right)=p−\left(8−p\right)$

I. $2\left(2q+1.5\right)=18−q$

J. $2r+49=-8\left(-r−5\right)$

1. Without solving, identify 3 equations that you think would be least difficult to solve and 3 equations you think would be most difficult to solve. Be prepared to explain your reasoning.
2. Choose 3 equations to solve. At least one should be from your "least difficult" list and one should be from your "most difficult" list.



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