## 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. $-\frac{1}{2}(-8+5x)=-20$

### 3 Which Would You Rather Solve?

#### Student Task Statement

Here are a lot of equations:

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

B. $-\frac{1}{2}(t+3)−10=-6.5$

C. $\frac{10−v}{4}=2(v+17)$

D. $2(4k+3)−13=2(18−k)−13$

E. $\frac{n}{7}−12=5n+5$

F. $3(c−1)+2(3c+1)=-(3c+1)$

G. $\frac{4m−3}{4}=-\frac{9+4m}{8}$

H. $p−5(p+4)=p−(8−p)$

I. $2(2q+1.5)=18−q$

J. $2r+49=-8(-r−5)$

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.



© CC BY Open Up Resources. Adaptations CC BY IM.