Directions

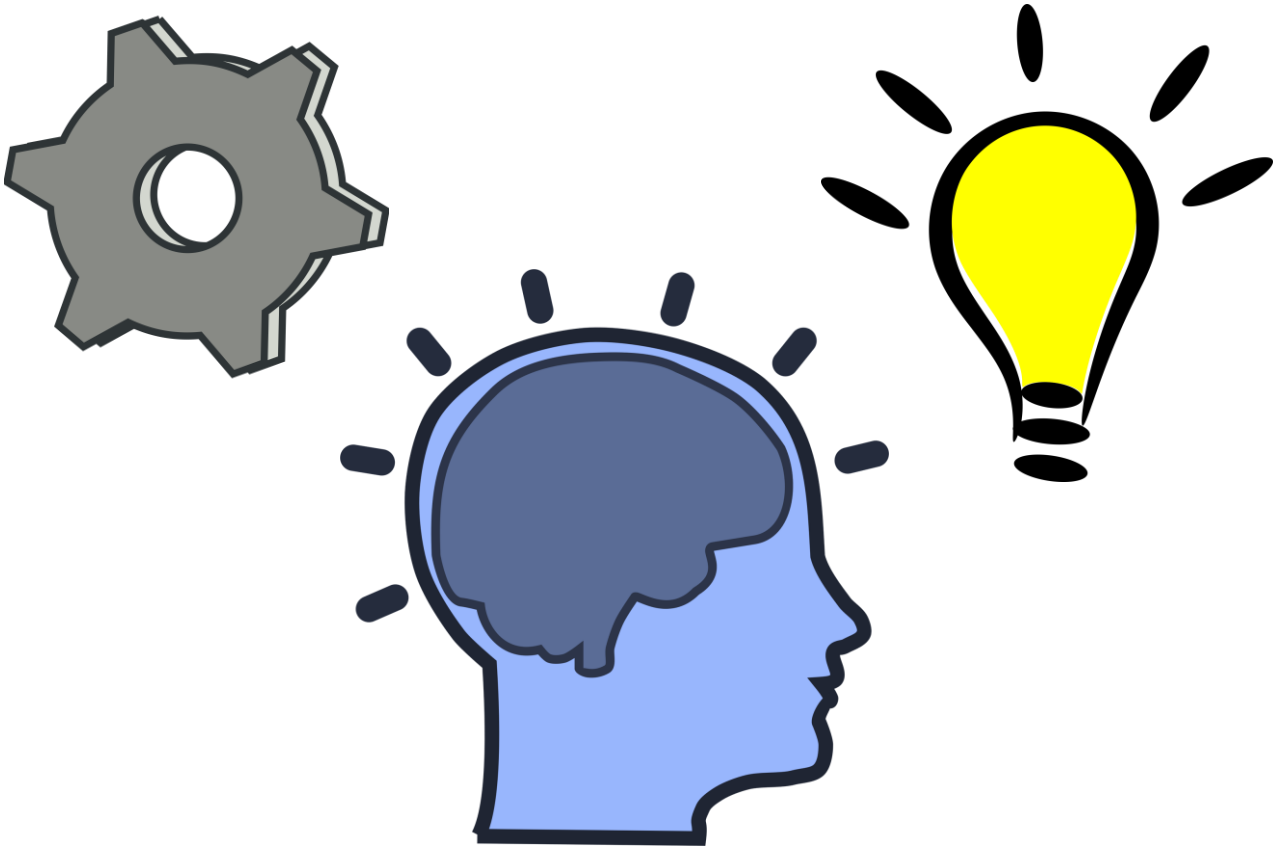
- For each challenge, students are to be given nine challenge cards.
- Students should look through sides A and B on each card. One equation is solved correctly, while the other has a "common mistake".
- Students should choose which one is solved correctly and either circle it on their answer sheet or place it in the correct pile. (Answer sheets and category letters are both included.)
- Students should continue until all nine cards are complete, and then they may move on to the next challenge.

Ideas for the classroom!

- Give students a time limit. See how many students can get right in an allotted amount of time.
- Group students by ability. Challenges increase in difficulty. Each group could be responsible for one challenge a piece.
- Give out prizes when students complete the challenges!
- Have students create their own "common mistake" problems.
- Laminate challenge cards for repeated use.
- Students could work individually or in partners.
- This challenge could be used as class work or review. This could even be used for extra credit!

Challenge #1

one- and two-step equations
positive numbers only



1

A

$$2x - 7 = 25$$

$$+7 = +7$$

$$\frac{2x}{2} = \frac{32}{2}$$

$$x = 16$$

B

$$2x - 7 = 25$$

$$+2 = +2$$

$$-7x = 27$$

$$+7 = +7$$

$$x = 34$$

2

A

$$6 + 8b = 46$$

$$-6 = -6$$

$$\frac{8b}{8} = \frac{40}{8}$$

$$b = 5$$

B

$$6 + 8b = 46$$

$$+6 = +6$$

$$\frac{8b}{8} = \frac{52}{8}$$

$$b = 6.5$$

3

A

$$\frac{1}{2}a = 32$$

$$-\frac{1}{2} = -\frac{1}{2}$$

$$a = 31\frac{1}{2}$$

B

$$\frac{1}{2}a = 32$$

$$\cdot 2 = \cdot 2$$

$$a = 64$$

1

A

$3x + 2x - 1 = 32$

$5x - 1 = 32$

$+1 = +1$

$\frac{5x}{5} = \frac{33}{5}$

$x = 6.6$

B

$3x + 2x - 1 = 32$

$6x - 1 = 32$

$+1 = +1$

$\frac{6x}{6} = \frac{33}{6}$

$x =$ [illegible]

2

A

$4b + 7 = 3 + 2$

$4b + 7 = 5$

$-7 = -7$

$\frac{4b}{4} = \frac{2}{4}$

$b = \frac{1}{2}$

B

$4b + 7$ [illegible]

$4b + 7$ [illegible]

-7 [illegible]

$\frac{4b}{4}$ [illegible]

$b =$ [illegible]

3

A

$\frac{1}{4}a = 45 + 3a$

$-3a = -3a$

$3\frac{1}{4}a = 45$

$\frac{3\frac{1}{4}a}{3\frac{1}{4}} = \frac{45}{3\frac{1}{4}}$

$a = 1.28$

B

$\frac{1}{4}a = 45$ [illegible]

[illegible]

4

A

$123 + c = 153$

$-123 = -123$

$c = 30$

B

$123 + c = 153$

$+123 = +123$

$c = 276$

5

A

265.5

-3

262.5

262.5

0.29

B

$75n + 3 = 265.5$

$-3 = -3$

$\frac{75n}{75} = \frac{262.5}{75}$

$n = 3.5$

6

A

42

B

$\frac{3}{4}b = 42$

$\cdot \frac{4}{3} = \cdot \frac{4}{3}$

$b = 56$

7

A

$4(x + 3) = 6$

$4x + 12 = 6$

$-12 = -12$

$\frac{4x}{4} = \frac{-6}{4}$

$x = -1\frac{1}{2}$

B

$4(x + 3) = 6$

$4x + 3 = 6$

$-3 = -3$

$\frac{4x}{4} = \frac{3}{4}$

$x = \frac{3}{4}$

8

A

$(4 + 5) + 12n = 14$

$9 + 12n = 14$

$-9 = -9$

$12n = 5$

B

$(4 + 5) + 12n = 14$

$21n = 14$

[illegible]

A

B

Challenge #1			Challe					
1	A	B	1	A	B	1	A	B
2	A	B	2	A	B	2	A	B
3	A	B	3	A	B	3	A	B
4	A	B	4	A	B	4	A	B
5	A	B	5	A	B	5	A	B
6	A	B	6	A	B	6	A	B
7	A	B	7	A	B	7	A	B
8	A	B	8	A	B	8	A	B
9	A	B	9	A	B	9	A	B

Name _____

Date _____

The Common Mistake Challenge: Equations

1) Name at least five common mistakes that students could make when solving equations.

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2) What was your most common mistake when solving? What are you going to do to make sure you do not make that mistake again?

3) Which of the examples was the most difficult type of equation to solve? Why?