AFOQT Advanced Math Techniques (Not toooo advanced)

Exponent memory aids (5^{th} most asked on the <u>MK</u>)

Exponent rules:

$$a^{0} = 1$$
 (One zero to rule them all) $a^{2} = b^{2} = (4 \times 52)^{2} = 1$
 $a^{m*}a^{n} = a^{m+n}$ (Helper exponents) $a^{b} \cdot a^{c} = a^{b+c}$
 $(\underline{a^{m}})^{n/2} = a^{m*n}$ (Double team the a) $(x^{n})^{n} = x^{2^{n}} = x^{2^{n}}$
 $(\underline{a^{m}})^{n/2} = a^{m*n}$ (mooks down on n (second class citizen)) $x^{4} = x^{2^{n}} = x^{2^{n}}$
 $a^{n} = 4 \times z^{2^{n}}$
 $(\underline{ab})^{n} = a^{n}b^{n}$ (Distribution rule) $(3 \times z)^{2} = 3^{2} \times z = 9x^{2}$
 $a^{-1} = \frac{1}{a}$ (flip me over rule) $\frac{1}{a^{2^{n}}} = a^{2^{n}}$
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C. 95
D. 102
E. None of the above
$$2^{2} = 2^{3}$$

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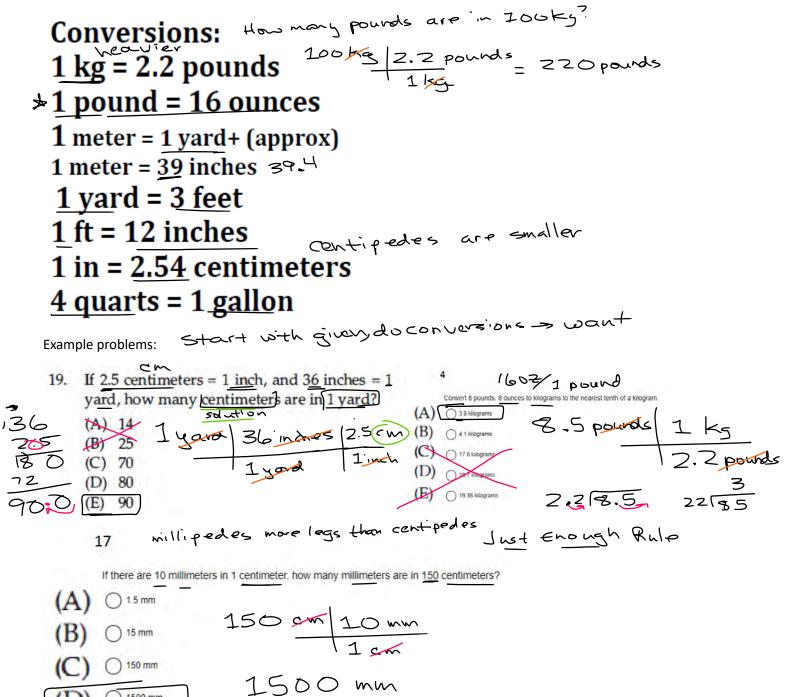
95

С.

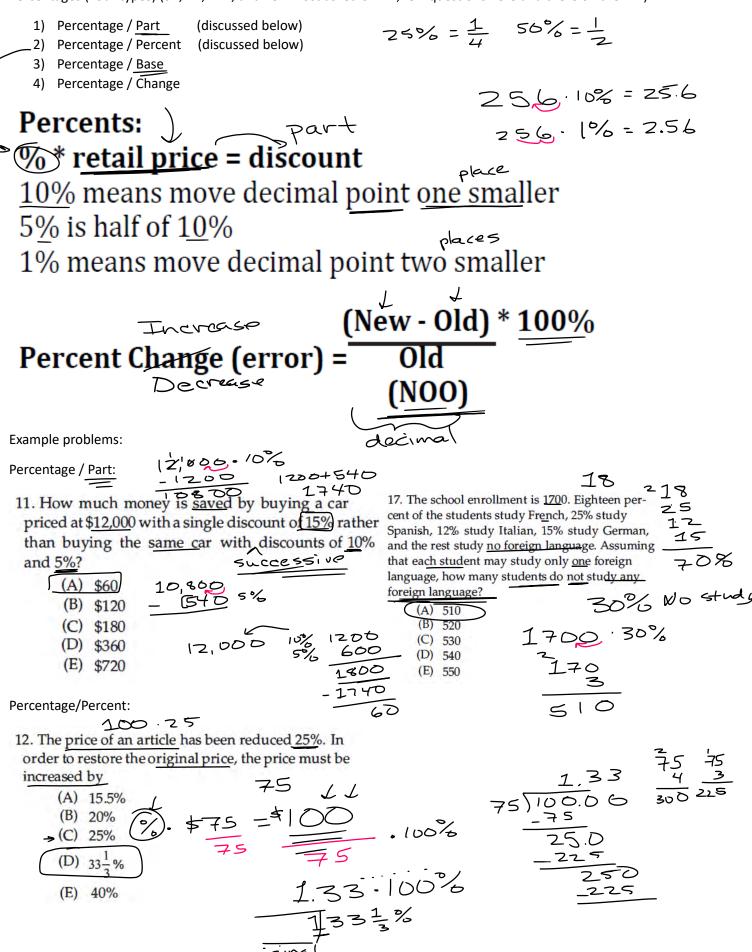
1500 mm

) 15,000 mm

(E)



Percentages (Four types) (3rd, 4th, 11th, and 15th most asked on AR; few questions here and there on the MK)



1. Question

\longrightarrow athletes

At West High School, 30% of athletes run cross country. At the school, 50% of the students are involved in athletic activities. What percentage of students run cross

| country? | 100 students - 50% = 50.30% = |
|----------|-------------------------------|
| O15% | |
| O 10% | $\frac{1}{2}$ 50 0.3 |
| O 30% | 0.3 |
| O 25% | 150 |

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"Up and Up" Method for comparing fractions



Example problems: AR

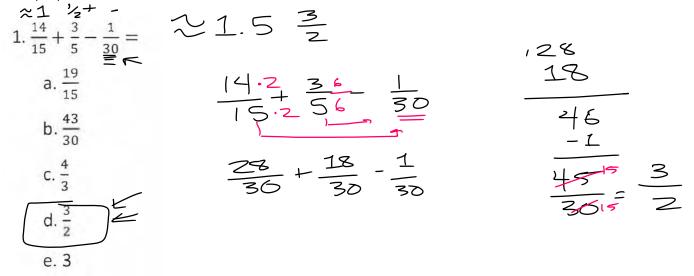
- A class of 198 recruits consists of three racial 20
- 2. A car has a gasoline tank that holds 20 17. gallons. When the gauge reads $\frac{1}{4}$ <u>jull</u>, how many gallons are needed to fill the tank? (A) 16 20-1 = 5gallons n tank (B) 15

A class of <u>198</u> recruits consists of three racial and ethnic groups $If \frac{1}{3}$ are black and $\frac{1}{4}$ of the remainder are Hispanic, how many of the recruits in the class are white? (A) <u>198</u> (B) <u>165</u> <u>135</u> <u>41135</u> <u>135</u> <u>41135</u> (D) <u>99</u> <u>2101</u>

Example problems: MK

(C) 10 (D) 5€

(E) 4



24. Arrange the following numbers from least to greatest value:

