Algebra 2 4-12-13 Class Notes

① $\frac{1}{7}N + 3 = \frac{-1}{5}(N-20)$ $N=?$

$\frac{1}{7}N + 3 = -\frac{1}{5}N + 4$

$+\frac{1}{5}N - 3 \qquad +\frac{1}{5}N - 3$

5 + 7 = 35

$\frac{35}{12} \cdot \frac{12}{35}N = 1 \cdot \frac{35}{12}$

$N = \frac{35}{12}$

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② $(2x+5)^2(-3x+7)$

$(4x^2+20x+25)(-3x+7)$

$-12x^3 - 60x^2 + 75x$

$+20x^2 + 140x + 175$

$-12x^3 - 32x^2 + 65x + 175$

Intermediate Algebra – ACT Practice Problems

(4) $i^2 = -1$, $(1-3i)^3$

$$(1-3i)^2 = 1^2 - (6i) + 9i^2$$
$$= 1 - 6i - 9$$
$$= (-8-6i)(1-3i)$$
$$-8 + 24i - 6i + 18i^2$$
$$\boxed{-26 + 18i}$$

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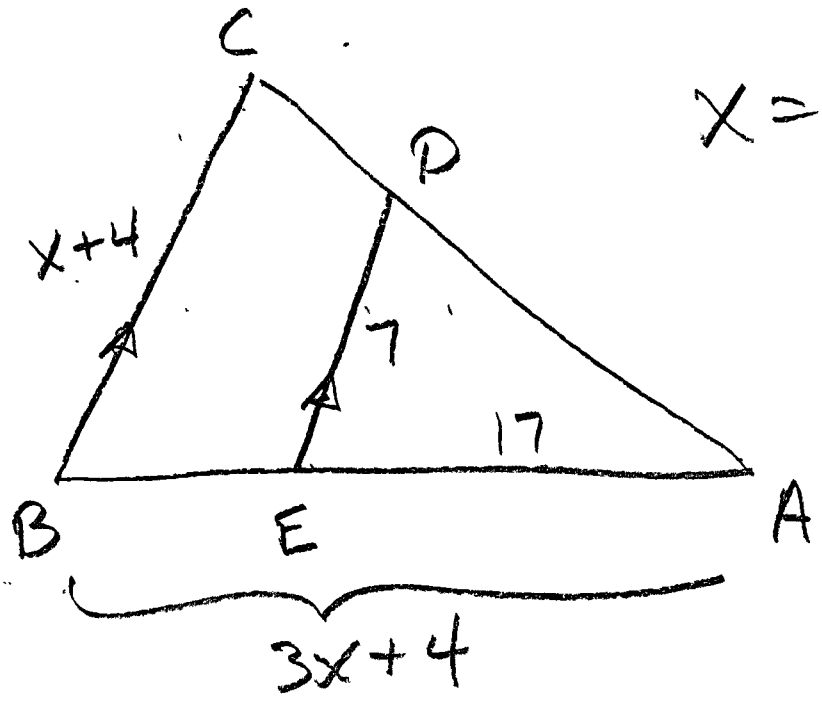
(11) $k = ?$ $\quad 4x^2 + kx + 25 = 0$

EXACTLY 1 SOLUTION

$(2x+5)^2 \Rightarrow$ middle term is $20k$

$\therefore \boxed{k = 20}$

(11)



$X = ?$

$$\frac{7}{17} = \frac{X+4}{3X+4}$$

$$21X + 28 = 17X + 68$$
$$-17X \quad -28 \quad -17X \quad -28$$
$$4X = 40$$

$$\boxed{X = 10}$$

(19) $(2+4i)(3-2i)+(-3i)(5i)$

$6-4i+12i-8i^2-15i^2$

$14+8i+15 = \boxed{29+8i}$

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(13) $33+(4-3^2)-24 \div 8$

$33+(4-9)-24 \div 8$

$33+(-5)-24 \div 8$

$33-5-3$

$\boxed{25}$

(12) $(-3, 7), (2, 5)$

$\frac{5-7}{2+3} = \frac{-2}{5} = m$

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(5) Sum of x, y is 17
difference is 3,
What is xy?

$x + y = 17$
$x - y = 3$

$2x = 20 \quad x = 10$
$y = 7$

$xy = 70$