1. Chapter 2, Section 2.1, Question 006

Find a number d such that the line containing the points $(d, 4)$ and $(-5, 23)$ has slope -4.

Give an exact answer.

$d =$

2. Chapter 2, Section 2.1, Question 010

Suppose your cell phone company offers two calling plans. The pay-per-call plan charges $\$12$ per month plus 4 cents for each minute. The unlimited-calling plan charges a flat rate of $\$30$ per month for unlimited calls.

(a) What is your monthly cost in dollars for making 300 minutes per month of calls on the pay-per-call plan?

$\$$ *1

(b) Find an equation that gives the cost c in dollars for making m minutes of phone calls per month on the pay-per-call plan.

$c(m) =$

(c) How many minutes per month must you use for the unlimited-calling plan to become cheaper?

If more than *2 minutes per month are used, then the unlimited-calling plan is cheaper.

*1 - significant digits not applicable; exact number, no tolerance
*2 - significant digits not applicable; exact number, no tolerance

3. Chapter 2, Section 2.1, Question 015

Find a number t such that the point $(14, t)$ lies on the line containing the points $(17, 10)$ and $(34, 16)$.

Give an exact answer.

$t =$

4. Chapter 2, Section 2.1, Question 027

Find a number t such that the point $(t, 2t)$ lies on the line containing the points $(7, -5)$ and $(9, -13)$.

Enter the exact answer.

$t =$

5. Chapter 2, Section 2.1, Question 034

Find a number t such that the line containing the points $(-5, t)$ and $(4, -8)$ is parallel to the line containing the points $(5, 6)$ and $(-2, 4)$.

Give an exact answer.

$t =$

6. Chapter 2, Section 2.1, Question 040

Find the equation of the line in the xy -plane that contains the point $(-22, 1)$ and that is perpendicular to the line whose equation is $y = -3x + 5$.

Enter the exact answer in the form $y = mx + b$.

$y =$

7. Chapter 2, Section 2.1, Question 042

Find a number t such that the line in the xy -plane containing the points $(-7, t)$ and $(10, 7)$ is perpendicular to the line $y = -3x + 12$.

Give an exact answer.

$t =$